
From:

To:

Cc:

Bcc:

Subject:

Date:

Attachments:

(b)(6);(b)(7)(C)

LMI 1017F00149, WO 06 - Mod 3: Real Estate Litigation Support to March 15, 2018

Wed Feb 28 2018 23:41:52 EST

LMI Price Proposal WO 06 Mod 03.pdf

WO 06 Mod 03 LMI Real Estate Litigation Support 022818_LMI.PDF

WO 06 Mod 03 SOW Real Estate Litigation Support 021518.doc

(b) (6)

- The attached Modification No. 3 to Work Order No. 6 is approved. The points of contact for this work order continue to be as follows:

POC:

COR:

Contracting Officer:

(b) (6), (b) (7)(C)

Thank you,

(b) (6), (b) (7)(C)

Real Estate and Environmental Branch Chief

Border Patrol & Air and Marine Program Management Office

24000 Avila Road, Suite

(b) (6), (b) (7)(C)

Laguna Niguel, CA 92677

Phone

(b) (6), (b) (7)(C)

Cell

(b) (6), (b) (7)(C)

Customer: Customs and Border Protection, U.S. DHS

Project Title: Replacement Fence Real Estate Litigation Support

RFQ #: WO 06 Mod 03 1017F00149

Submittal Date: 02/28/2018



Option Period 2 February 1, 2018 to February 28, 2018

Labor Rate Category	Hours	Hourly Rate	Amount
Project Manager/ Senior SME (10+ years with advance degree) - Professional Engineer with LEED Accreditation; Certified Construction Manager; Real Estate Specialist and Project Management Professional (PMP)	(b) (4), (b) (5)		
Mid-Level SME – (5 TO 10 years' experience) Professional Engineer, Construction Manager, Real Estate Specialist, and Project Manager			
Junior SME – (1 TO 5 years' experience) Professional Engineer, Construction Manager, Real Estate Specialist, and Project Manager			
GIS Support			
Travel			
ODCs			
TOTAL			

See next page for GSA Schedule categories and rates being provided for evaluation purposes

This page contains confidential sensitive business and financial information. The use or disclosure of this data is prohibited without the approval of Logistics Management Institute

Date: 28-Feb-18
Proposal: WO 06 Mod 03
Customer: CBP, DHS
Proj name: Replacement Fence Real Estate Litigation Support

These rates are derived from LMI's GSA Corp. Contract # GS-00F-0026M
 Sch 899 - Environ Svcs ~ C899-1- Environmental Consulting Svcs

SITE	LABOR CATEGORY	HRS	FY17 RATE	DISCOUNT	FY17 DISCOUNTED RATE	PRICE
Contractor Site	Executive Program Manager	(b) (4), (b) (5)				
Contractor Site	Senior Program Manager					
Contractor Site	Senior Project Leader					
Contractor Site	Project Leader 1					
Contractor Site	Project Leader 2					
Contractor Site	Senior Specialist 1					
Contractor Site	Senior Specialist 2					
Contractor Site	Senior Specialist 3					
Contractor Site	Specialist 1					
Contractor Site	Specialist 2					
Contractor Site	Specialist 3					
Contractor Site	Specialist 4					
Contractor Site	Analyst 1					
Contractor Site	Analyst 2					
Contractor Site	Analyst 3					
Contractor Site	Research Specialist					
Contractor Site	Research Assistant					
Contractor Site	Administrative Support					
Contractor Site	Project/Research Support					
Contractor Site	Executive Support					
	TOTAL CONTRACTOR SITE LABOR					
Customer Site	Executive Program Manager					
Customer Site	Senior Program Manager					
Customer Site	Senior Project Leader					
Customer Site	Project Leader 1					
Customer Site	Project Leader 2					
Customer Site	Senior Specialist 1					
Customer Site	Senior Specialist 2					
Customer Site	Senior Specialist 3					
Customer Site	Specialist 1					
Customer Site	Specialist 2					
Customer Site	Specialist 3					
Customer Site	Specialist 4					
Customer Site	Analyst 1					
Customer Site	Analyst 2					
Customer Site	Analyst 3					
Customer Site	Research Specialist					
Customer Site	Research Assistant					
Customer Site	Administrative Support					
Customer Site	Project/Research Support					
Customer Site	Executive Support					
	TOTAL CUSTOMER SITE LABOR					
	TOTAL LABOR					
	OTHER DIRECT COSTS					
	Other ODC					
	Applicable G&A (Note 1)					
	TOTAL ODCs (excluding Travel)					
	TRAVEL COSTS					
	Travel					
	Applicable G&A (Note 1)					
	TOTAL TRAVEL					
	TOTAL ESTIMATED PRICE					
	Note 1: LMI G&A Rate					
	Subcontractor Burden Rate (Inclusive of G&A)					

This page contains confidential sensitive business and financial information. The use or disclosure of this data is prohibited without the approval of Logistics Management Institute.

**WORK ORDER
ENVIRONMENTAL SME
FME CONTRACT GS00F0026M
TASK ORDER HSBP1017F00149
Billing Line 20**

1. **SME AREA:** Real Estate Litigation Support
2. **DATE:** January 19, 2018
3. **WORK ORDER NUMBER:** 06, Option 3
4. **DESCRIPTION OF SERVICE:** LMI will provide Litigation Support Services for the U.S. Customs & Border Protection (CBP) and the U.S. Department of Justice, Executive Office for the United States Attorneys (DOJ, EOUSA) for the Southern Texas Border Fence land acquisition cases. The support will include assisting with real estate strategy development or troubleshooting during execution, and coordinate and support CBP Office of Chief Counsel and the U.S. Department of Justice (DOJ) throughout the land condemnation litigation process.

The paralegal support personnel will have existing DOJ clearance, equipment and systems access, or the ability to gain this clearance.

7. **PERIOD OF PERFORMANCE:** December 1, 2017 through January 1, 2018
 - a. **Option 1:** Additional period of performance from January 2, 2018 to January 31, 2018
 - b. **Option 2:** Additional period of performance from February 1, 2018 to February 28, 2018
 - c. **Option 3:** Additional period of performance from March 1, 2018 to March 15, 2018
8. **DELIVERABLES:** All deliverable will be provided in electronic format unless otherwise specified and include:

1. Monthly report which documents the activities performed for the month and the summary of activities observed and recommendations.

9. **ESTIMATED HOURS - Option 3:**

10. **ESTIMATED COSTS WITH ODCS:**

Labor:	\$
ODCs*:	\$
Total:	\$

**WORK ORDER
ENVIRONMENTAL SME
FME CONTRACT GS00F0026M
TASK ORDER HSBP1017F00149
Billing Line 10**

1. **SME AREA:** Real Estate Litigation Support
2. **DATE:** February 15, 2018
3. **WORK ORDER NUMBER:** 06, Option 3
4. **DESCRIPTION OF SERVICE:** This Work Order requires the Contractor to complete the following tasks:

Provide Litigation Support Services for the U.S. Customs & Border Protection (CBP) and the U.S. Department of Justice, Executive Office for the United States Attorneys (DOJ, EOUSA) for the Southern Texas Border Fence land acquisition cases. Support to be provided at San Antonio, Brownsville and McAllen, Texas. Contractor shall furnish all labor, equipment, tools supplies, transportation, materials and supervision necessary to provide Professional Litigation Support Services as prescribed in the Performance Work Statement. Up to four (4) paralegals will assist with real estate strategy development or troubleshooting during execution, and coordinate and support CBP Office of Chief Counsel and the U.S. Department of Justice (DOJ) throughout the land condemnation litigation process.

Technical support to be provided to the BPAM PMO and DOJ by the four (4) paralegals will include support services outlined under sections **3.3.2**, of the Task Order statement of work.

5. **TRAVEL:** NA

6. CBP BACKGROUND INVESTIGATION (BI) CLEARANCE

It is anticipated that the paralegal support personnel will existing DOJ clearance, equipment and systems access per Section 7.0 of the Task Order statement of work.

All personnel entering in or working on Federal Property will be screened and checked for criminal history and proper immigration status. Personnel who do not meet the minimum standards will not be allowed on the job site. The following items determine whether or not a person has met the minimum standards as it relates to the criminal history requirement:

- . Any felony conviction (at any time)
- . Immigration violation (unless exonerated by a judge)
- . Active warrant (anywhere)

Be advised that if an individual does not clear vetting, the Government cannot disclose (for privacy reasons) why they failed. To further clarify, the U.S. Border Patrol (USBP) vetting criteria is separate from any E-Verify requirements that LMI may have.

If access to a CBP site is required, LMI shall submit the following information on each paralegal at least one week prior to arriving on site:

Individual's full name

Date of birth (DOB)

Place of birth (POB)

Driver's Licenses Number and State

SSN or Alien Registration Number

On a case by case basis, LMI may be asked to furnish photocopies of the driver license or state identification card and the social security number or alien registration number in order to help verify and/or resolve conflicting information resulting from the security screening process.

7. **PERIOD OF PERFORMANCE:** December 1, 2017 through January 1, 2018
8. **Option 1:** Additional period of performance from January 2, 2018 to January 31, 2018
9. **Option 2:** Additional period of performance from February 1, 2018 to February 28, 2018
10. **Option 3:** Additional period of performance from March 1, 2018 to March 15, 2018
11. **DELIVERABLES:** All deliverable will be provided in electronic format unless otherwise specified and include:
 1. Monthly report which documents the activities performed for the month and the summary of activities observed and recommendations.

12. **ESTIMATED HOURS - Option 3:**

13. **ESTIMATED COSTS WITH ODCS:**

(b) (5)

From:

To:

Cc:

Bcc:

Subject:

Date:

Attachments:

(b) (6), (b) (7)(C)

FW: RFI #2 - 102336-SWB Wall Meeting with ORMD

Wed Feb 28 2018 16:55:54 EST

EsaEmbeddedMsg (1).msg

HSBP1017R0022 Solid Concrete Wall RFP_A008.pdf

HSBP1017R0023 Other Border Wall RFP_A008.pdf

OFAM Email RE 102336-SWB Wall Meeting with ORMD.msg

HSBP1017R0022 Solid Concrete Wall RFP_A008.pdf

HSBP1017R0023 Other Border Wall RFP_A008.pdf

Copy of Fence Constrained 12-21-16.xlsx

Copy of Fence Replacement FY17.xlsx

Copy of Sector TI Operational Prioritization Rollup (Draft).xlsx

TI Drill Prioritization.pptx

CWEmbed1.pdf

UNCONSTRAINED.docx

USBP email explanation- DUE 21318 - 102336-GAO Southwest Border Wall review.

msg

Fence Constrained 12-21-16.xlsx

UNCONSTRAINED.docx

USBP Fencing Course of Action (FINAL) Constrained Plus.pptx

USBP email on TI Prioritization Process-FW Update on TI Prioritization Process.msg

Sector TI Operational Prioritization Rollup (Draft) .xlsx

TI Drill – Prioritization.pptx

CWEmbed1.pdf

USBP Fencing Course of Action (FINAL) Constrained Plus.pptx

Good afternoon,

See below.

(b) (6), (b) (7)(C)

and I are working on a response to GAO, below is what we currently have. Can you please provide any additional information that you may have regarding the requirements development process or the work group meetings. Thank you.

USBP did not provide OFAM with a specific list of requirements. Rather, requirements were developed through a collaborative effort between USBP and OFAM. A workgroup was convened where OFAM provided technical expertise and skills as well as the overall management, while USBP provided the operational input for the development of the threshold requirements for the SWB Wall RFP.

VR,

(b) (6), (b) (7)(C)

Operations Officer, Detailed to ORMD
U.S. Border Patrol Headquarters
1300 Pennsylvania Ave. NW (b) (6), (b) (7)(C)
Washington, DC 20229
Cell: (b) (6), (b) (7)(C)

From: USBP-AUDIT-TEAM

Sent: Monday, February 26, 2018 11:56 AM

To: (b) (6), (b) (7)(C)

Cc: USBP-AUDIT-TEAM (b) (7)(E) (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

Subject: RFI #2 - 102336-SWB Wall Meeting with ORMD

Hello (b) (6), (b) (7)(C)

The USBP sent a response to the GAO RFI. See attached items from (b) (6), (b) (7)(C)

The GAO came back and is requesting the USBP requirements that led to the development of the SWB Wall RFP. Please provide the document showing USBP's list of requirements.

Thank you and call me with any questions.

Do have a marvelous Monday.

(b) (6), (b) (7)(C)

Management and Program Analyst

Analysis Division - Audits

Strategic Planning and Analysis Directorate

U.S. Border Patrol

1300 Pennsylvania Avenue, NW, Suite (b) (6), (b) (7)(C)

Washington, D.C. 20229

Office (b) (6), (b) (7)(C)

Mobile (b) (6), (b) (7)(C)

Audit Team Mailbox: (b) (7)(E)

"One Team One Fight!"

From: Davis, Ashley V [mailto:(b) (6)]

Sent: Thursday, February 22, 2018 10:17 AM

To: USBP-AUDIT-TEAM (b) (7)(E) Sarapu, Leslie (b) (6)

Cc: Henriquez, Elia (Jeanette) (b) (6)

Subject: RE: RFI #2 - 102336-SWB Wall Meeting with ORMD

Hi (b) (6), (b) (7)(C)

Apologies for the delayed response on these items. We've reviewed the documents provided, and we consider the first request ("Documentation of fence replacement priority "queue" as it existed at the time of the FY17 budget amendment and any documentation about how those priorities were developed") to be closed.

However, I wanted to follow up on the second bullet (b) (6), (b) (7)(C) stated that OFAM developed the wall prototype RFP based on a list of requirements from Border Patrol (prior to the development of the ORD. Please provide a copy of this list.") The information you sent us on 2/14 included an e-mail from (b) (6), (b) (7)(C) that listed the requirements included in the RFPs, as well as copies of the RFPs. However, it does not appear that the information provided included a list of the requirements from Border Patrol that led to the development of the RFP. Please advise.

Thanks!

(b) (6)

From: USBP-AUDIT-TEAM (b) (7)(E)
Sent: Wednesday, February 14, 2018 10:17 AM
To: Davis, Ashley V; Sarapu, Leslie
Cc: Henriquez, Elia (Jeanette) J; USBP-AUDIT-TEAM
Subject: RFI #2 - 102336-SWB Wall Meeting with ORMD

Good morning Leslie and Ashley:

Please see attached items and e-mails related to RFI #2 below. These files depict USBP historical data on the prioritization process with an email explanation of the process from the previous USBP tactical infrastructure director (b) (6), (b) (7)(C)

Please confirm receipt to ensure they all made it there. Same password applies.

Do have a winsome Wednesday.

(b) (6), (b) (7)(C)

Management and Program Analyst

Analysis Division - Audits

Strategic Planning and Analysis Directorate

U.S. Border Patrol

1300 Pennsylvania Avenue, NW, Suite (b) (6), (b) (7)(C)

Washington, D.C. 20229

Office - (b) (6), (b) (7)(C)

Mobile - (b) (6), (b) (7)(C)

Audit Team Mailbox: (b) (7)(E)

"One Team One Fight!"

From: USBP-AUDIT-TEAM
Sent: Wednesday, February 14, 2018 9:36 AM
To: Davis, Ashley V (b) (6); USBP-AUDIT-TEAM (b) (7)(E)
Sarapu, Leslie (b) (6)
Cc: Henriquez, Elia (Jeanette) J (b) (6)

Subject: RFI #1 - 102336-SWB Wall Meeting with ORMD

Good morning:

Happy Valentines Day!

Please see attached items related to RFI #1 below; fence replacement and how the priorities were developed. These should provide the documentation with an email explanation from OFAM on the USBP requirements.

The attached pdfs are the same as in the e-mail but please use them as they are password-protected. Password to follow.

The items related to RFI #2 below are forthcoming today.

Do have a winsome Wednesday.

(b) (6), (b) (7)(C)

Management and Program Analyst

Analysis Division - Audits

Strategic Planning and Analysis Directorate

U.S. Border Patrol

1300 Pennsylvania Avenue, NW, Suite **(b) (6), (b) (7)(C)**

Washington, D.C. 20229

Office **(b) (6), (b) (7)(C)**

Mobile **(b) (6), (b) (7)(C)**

Audit Team Mailbox: **(b) (7)(E)**

"One Team One Fight!"

From: Davis, Ashley V [mailto:**(b) (6)**]

Sent: Tuesday, January 30, 2018 10:11 AM

To: USBP-AUDIT-TEAM; (b) (7)(E)

Sarapu, Leslie (b) (6)

Cc: (b) (6), (b) (7)(C)

Henriquez, Elia (Jeanette) (b) (6)

(b) (6)

Subject: RE: 102336-SWB Wall Meeting with ORMD

Hi (b) (6), (b) (7)(C)

As we discussed in yesterday's meeting, we'd like to request two items.

(b) (5), (b)(6); (b)(7)(C)

Please provide these items by 2/14/18.

Thanks!
Ashley Davis

From: USBP-AUDIT-TEAM; (b) (7)(E)

Sent: Monday, January 29, 2018 11:24 AM

To: Sarapu, Leslie; Davis, Ashley V

Cc: USBP-AUDIT-TEAM; (b) (6), (b) (7)(C) Henriquez, Elia (Jeanette) J

Subject: 102336-SWB Wall Meeting with ORMD

Hi Leslie/Ashley,

Nice meeting you today. Please find the attached sign in sheet from today's meeting for your records.

Thank you,

(b) (6), (b) (7)(C)

Program Manager/Lead USBP Audit Liaison

Strategic Planning & Analysis Directorate-Analysis Division

1300 Pennsylvania Ave. N.W., Suite

(b) (6), (b) (7)(C)

Washington, D.C. 20229

Office: (b) (6), (b) (7)(C)

Mobile: (b) (6), (b) (7)(C)

Group Mailbox: (b) (7)(E)

EsasEmbeddedMsg (1) msg - extra of 21
To: USBP-AUDIT-TEAM (b) (7)(E)
Cc: USBP OPERATIONAL REQUIREMENTS TASKINGS (b) (7)(E)
(b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)
Sent: Wed 2/14/2018 1:11:44 PM
Subject: RE: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review
[OFAM Historical Data.zip](#)
[USBP Historical Data.zip](#)

Audit Team,

Good morning. Attached are two zip files. One contains documentation with an email explanation from OFAM on the USBP requirements. The other zip-file contains USBP historical data on the prioritization process with an email explanation of the process from the previous USBP tactical infrastructure director.

Please let me know if you have any questions.

(b) (6), (b) (7)(C)
Assistant Chief
ORMD
(b) (6), (b) (7)(C)

From: USBP-AUDIT-TEAM
Sent: Tuesday, February 13, 2018 8:40 AM
To: (b) (6), (b) (7)(C) USBP-AUDIT-TEAM (b) (7)(E)
Subject: RE: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review

10-4. Please send at your earliest convenience.

Thank you and do have a terrific Tuesday.

(b) (6), (b) (7)(C)
Management and Program Analyst
Analysis Division - Audits
Strategic Planning and Analysis Directorate
U.S. Border Patrol
1300 Pennsylvania Avenue, NW, Suite (b) (6), (b) (7)(C)
Washington, D.C. 20229
Office - (b) (6), (b) (7)(C)
Mobile - (b) (6), (b) (7)(C)
Audit Team Mailbox: (b) (7)(E)
"One Team One Fight!"

From: (b) (6), (b) (7)(C)
Sent: Tuesday, February 13, 2018 8:33 AM
To: USBP-AUDIT-TEAM (b) (7)(E)
Subject: RE: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review

Good morning (b) (6), (b) (7)(C)

I am currently in the Assessment and Evaluation for Border Wall. The soonest I can respond will probably be after 1800. I may have some time during a break.

(b) (6), (b) (7)(C)
Assistant Chief
ORMD

(b) (6), (b) (7)(C)

From: USBP-AUDIT-TEAM

Sent: Tuesday, February 13, 2018 7:13 AM

To: USBP-AUDIT-TEAM (b) (7)(E) (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

Subject: RE: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review

Good morning:

Kind reminder the below items are due today.

Thank you so much for your help!

(b) (6), (b) (7)(C)

Management and Program Analyst

Analysis Division - Audits

Strategic Planning and Analysis Directorate

U.S. Border Patrol

1300 Pennsylvania Avenue, NW, Suite (b) (6), (b) (7)(C)

Washington, D.C. 20229

Office (b) (6), (b) (7)(C)

Mobile (b) (6), (b) (7)(C)

Audit Team Mailbox (b) (7)(E)

"One Team One Fight"

From: USBP-AUDIT-TEAM

Sent: Tuesday, January 30, 2018 10:30 AM

To: (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

Cc: USBP-AUDIT-TEAM

Subject: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review

Good morning ORMD:

During yesterday's meeting the GAO is requesting the below two items:

(b) (5), (b) (6); (b) (7)(C)

Please provide requested items NLT February 13, 2018. Please ensure all items are marked appropriately (PreD, FOUO, FOUO/LES, etc.).

Thank you and please let us know if you have any questions or concerns.

Do have a terrific Tuesday.

(b) (6), (b) (7)(C)

Management and Program Analyst

Analysis Division - Audits

Strategic Planning and Analysis Directorate

U.S. Border Patrol

1300 Pennsylvania Avenue, NW, Suite (b) (6), (b) (7)(C)

BW23 FOIA CBP 016964

Washington, D.C. 20229

Office - (b) (6), (b) (7)(C)

Mobile - (b) (6), (b) (7)(C)

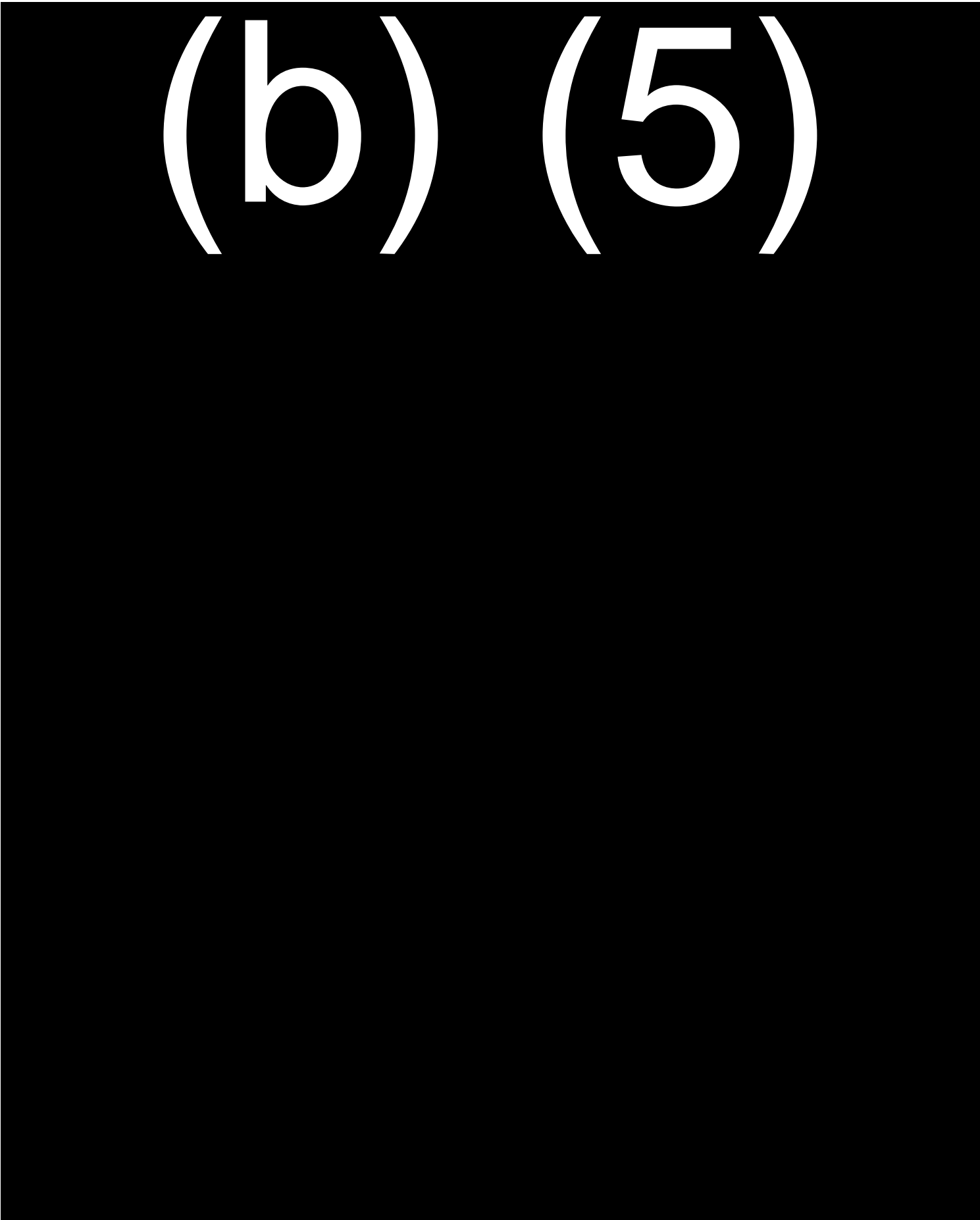
Audit Team Mailbox (b) (7)(E)

“One Team One Fight!”

(b) (5)

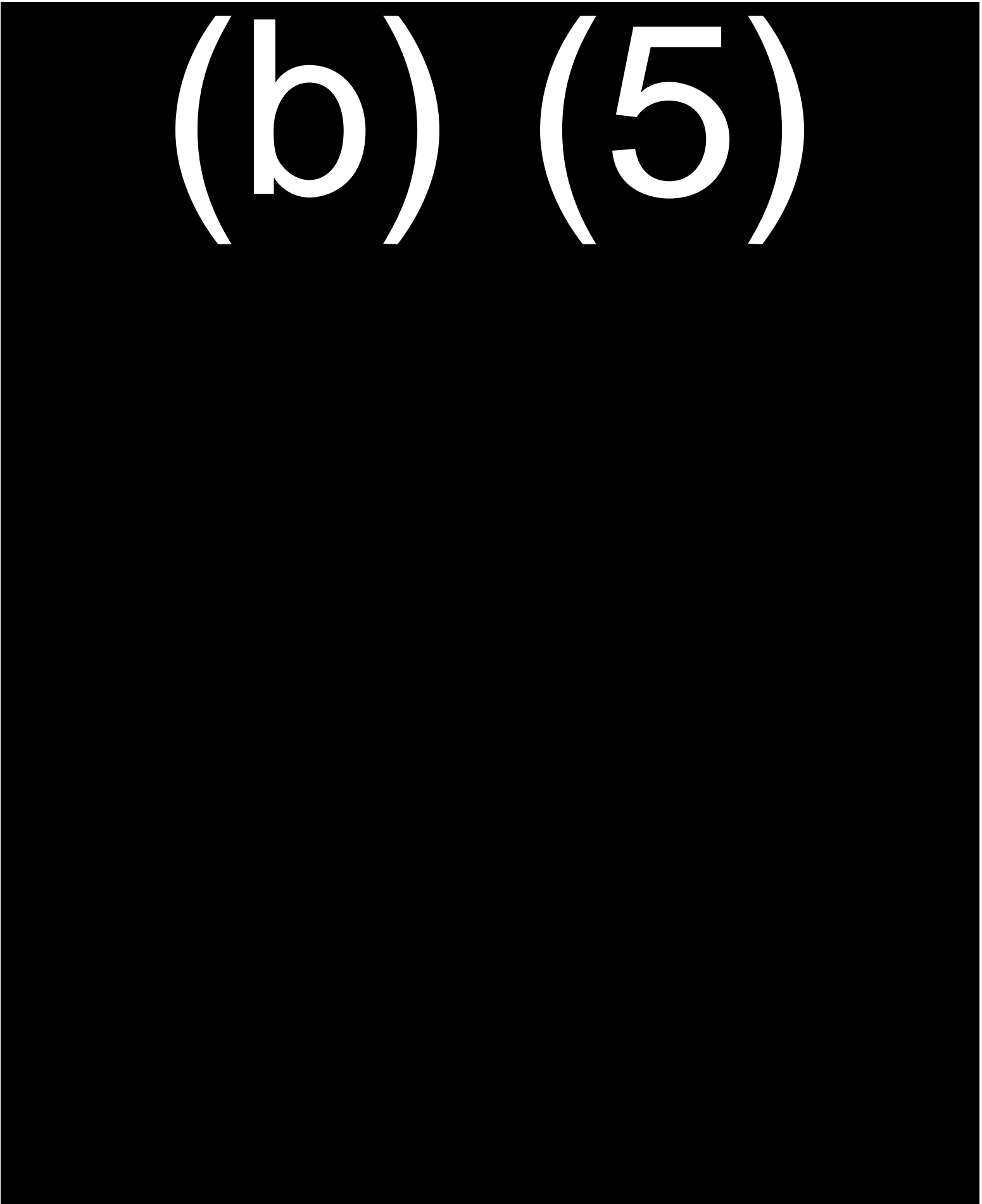
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(b) (5)



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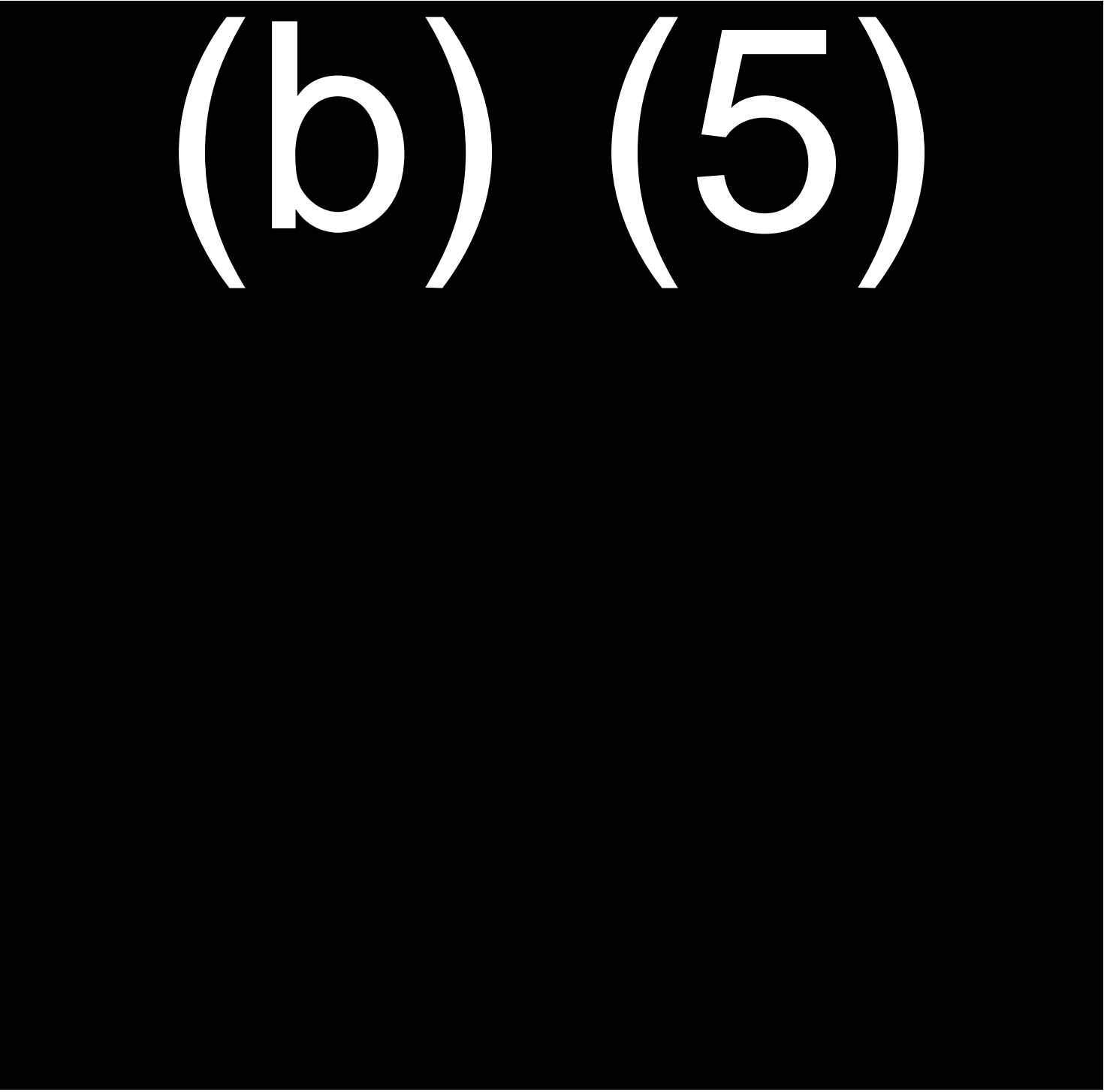


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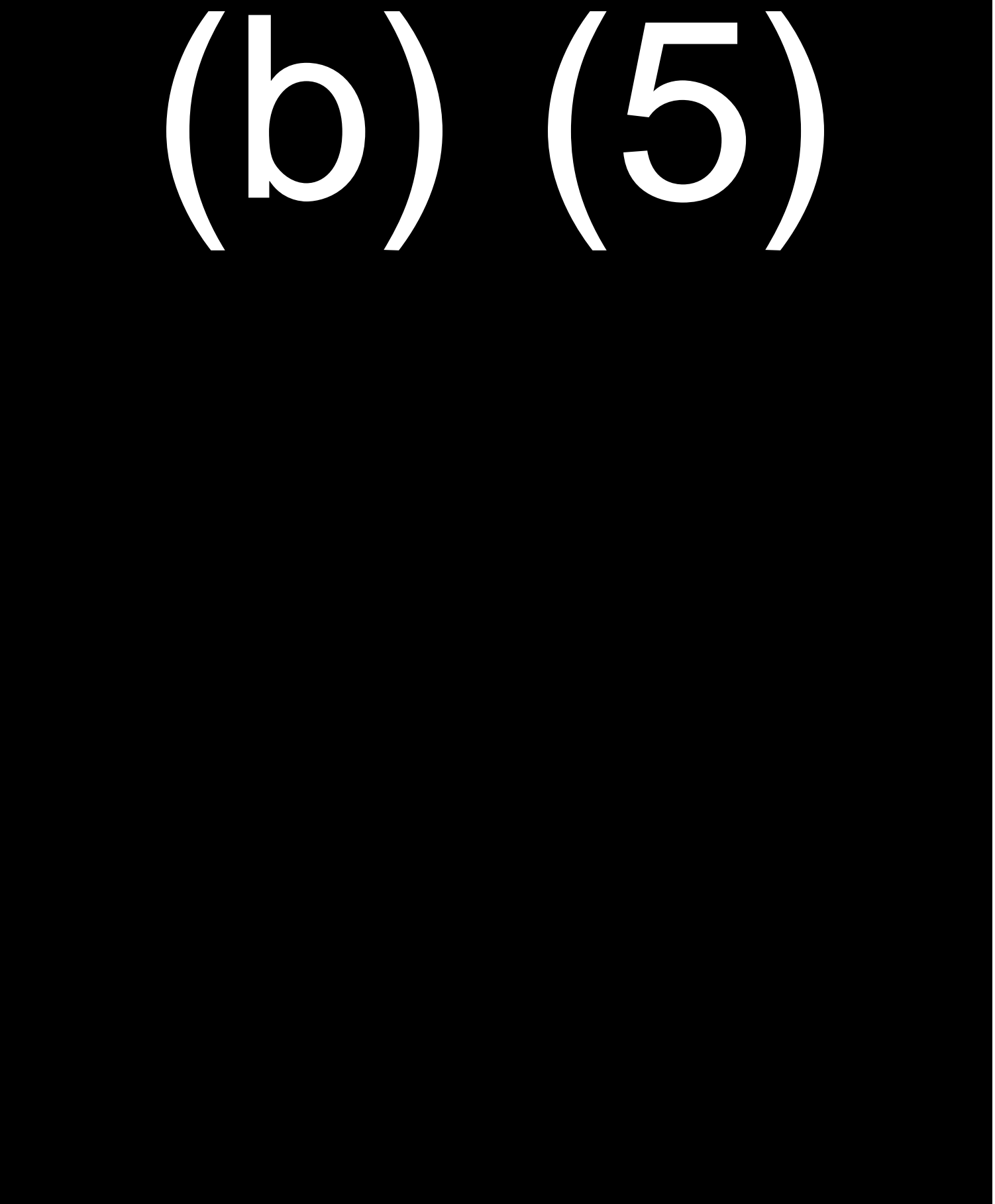
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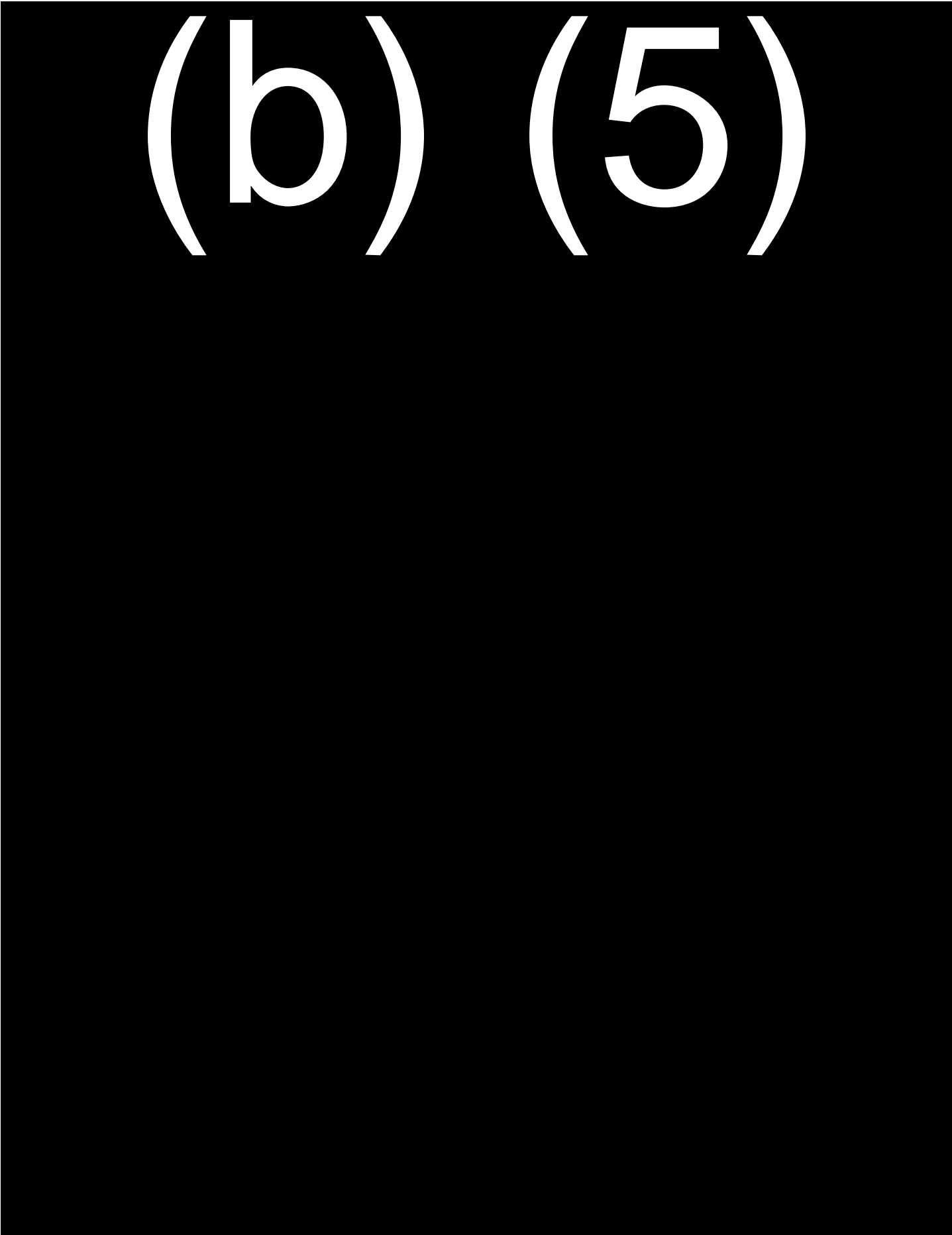
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(b) (5)



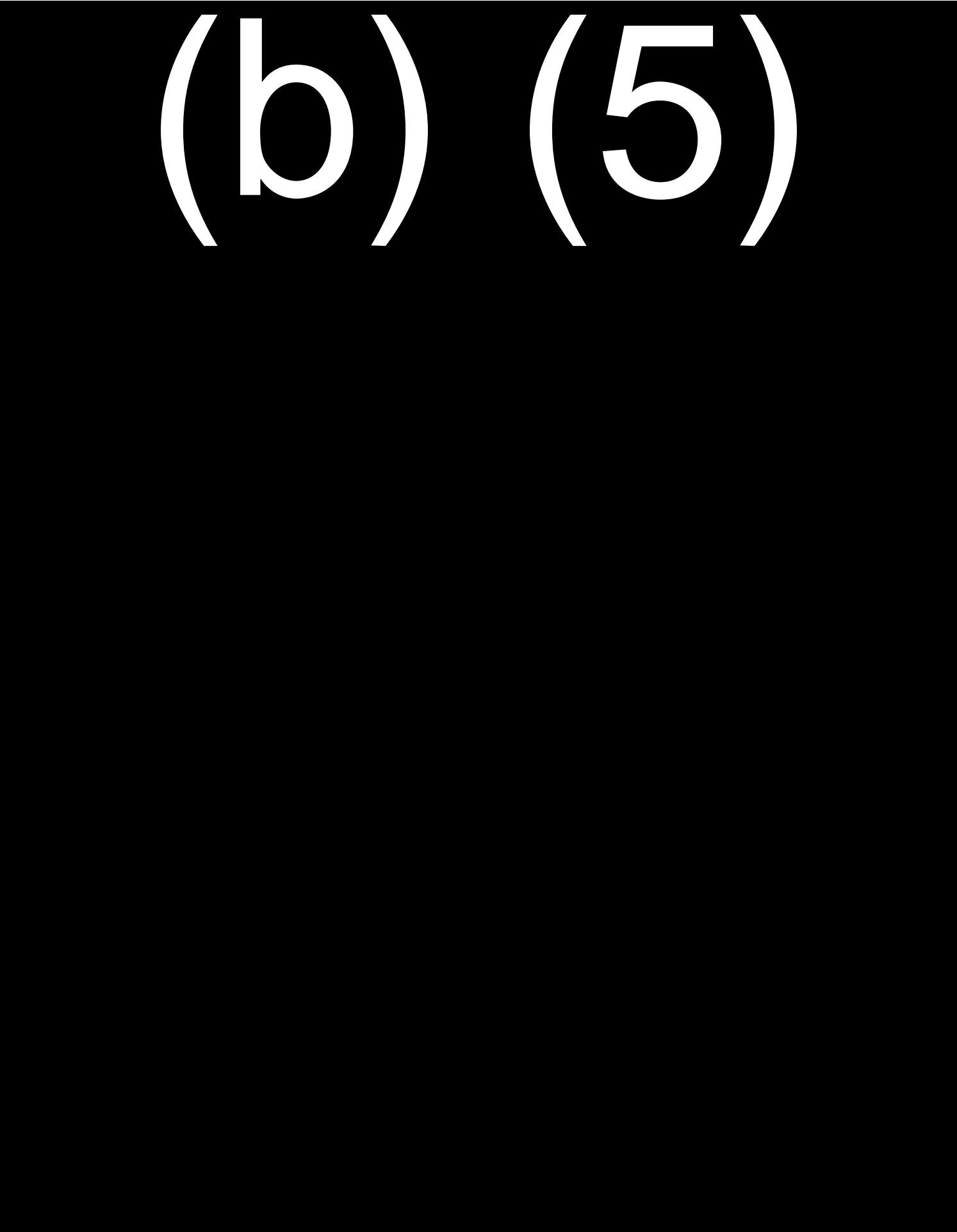
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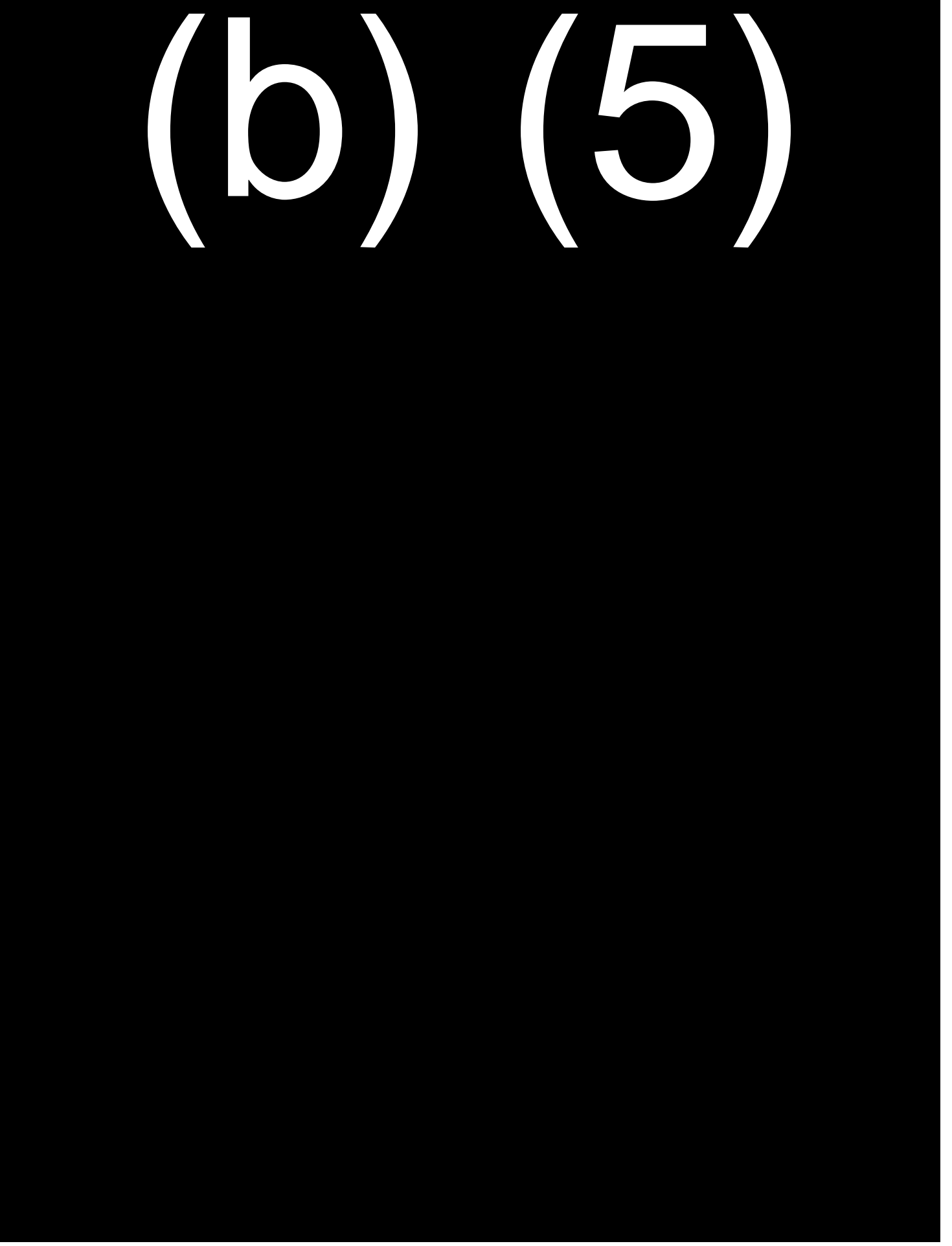
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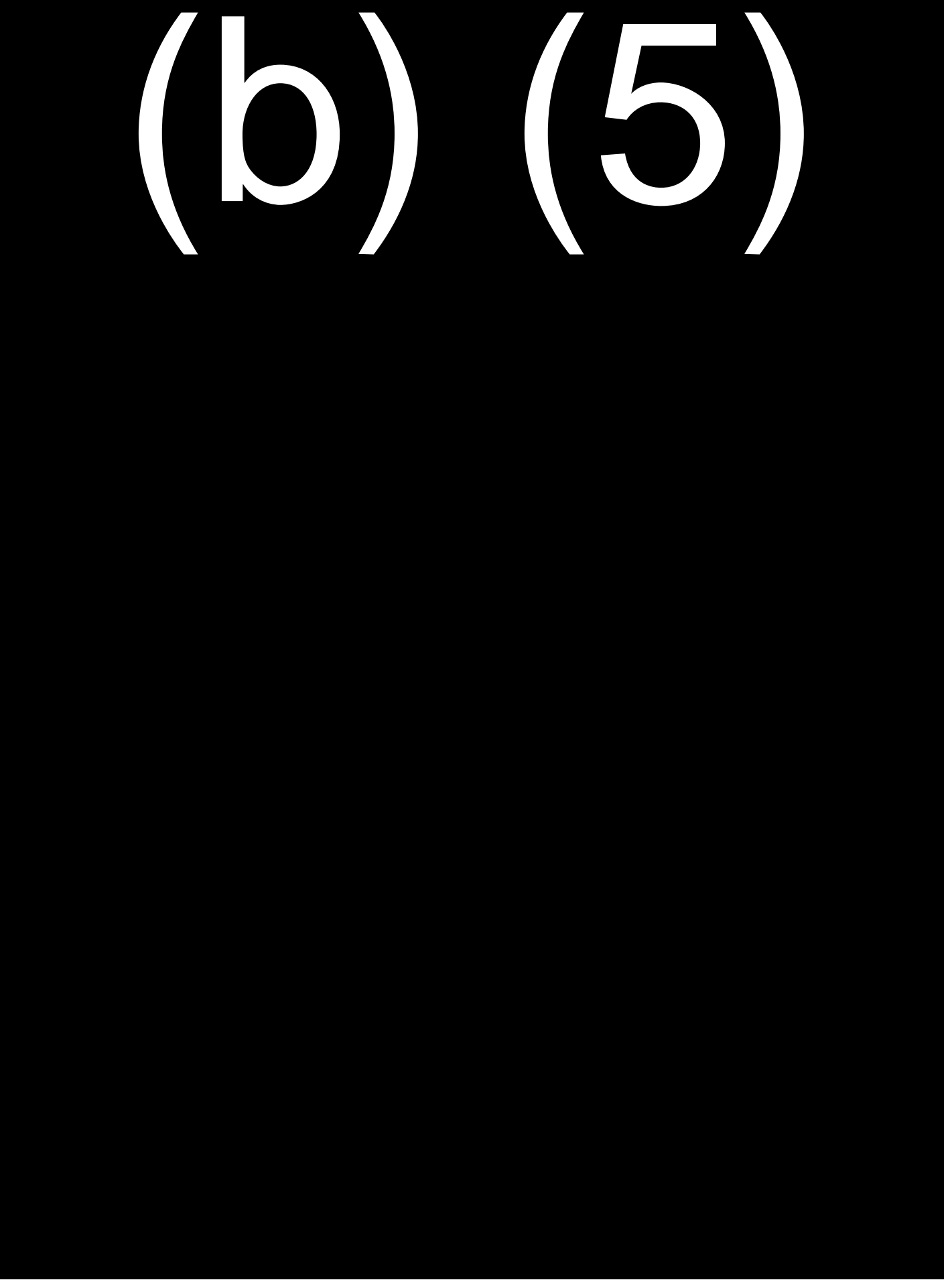


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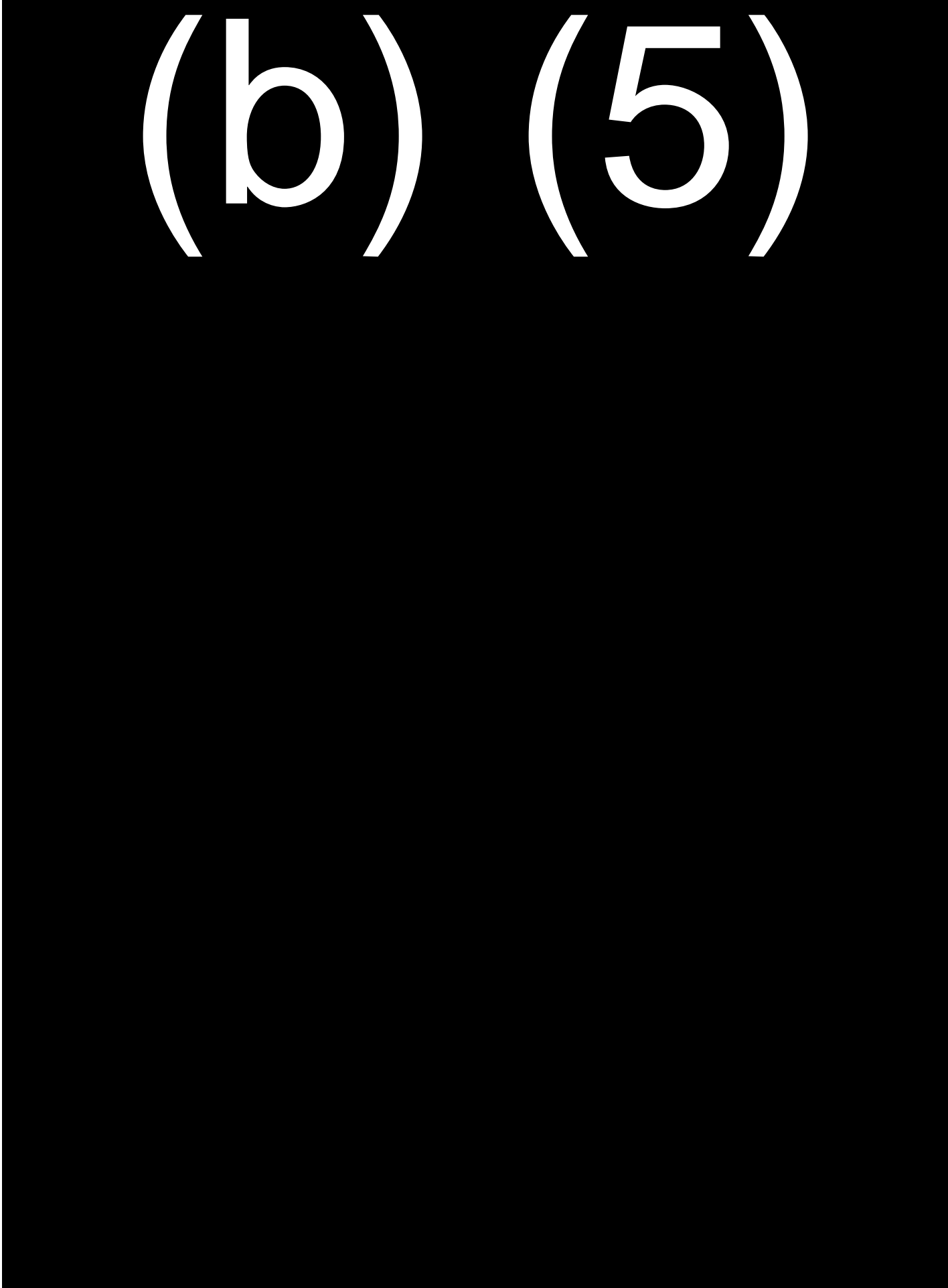
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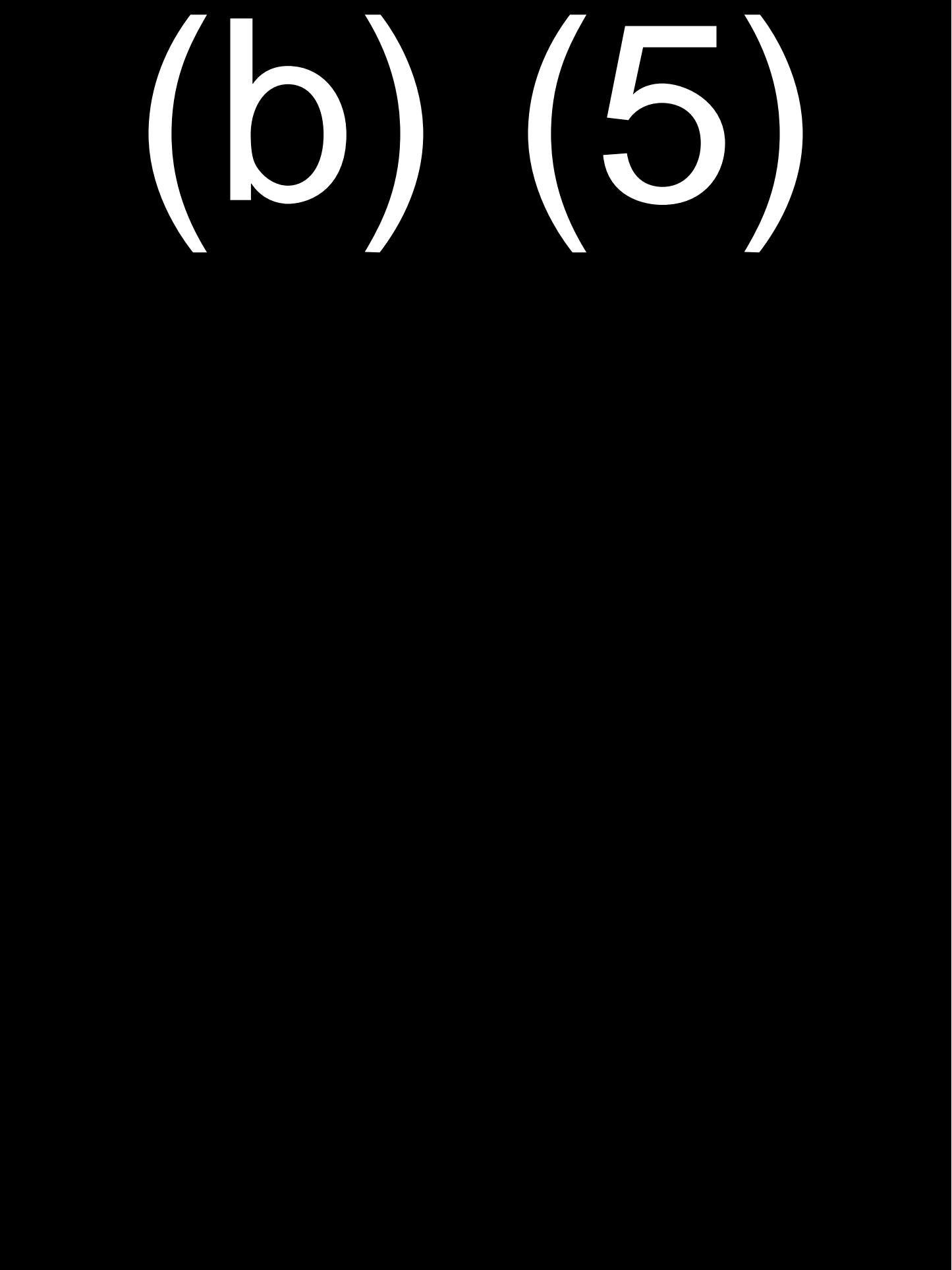
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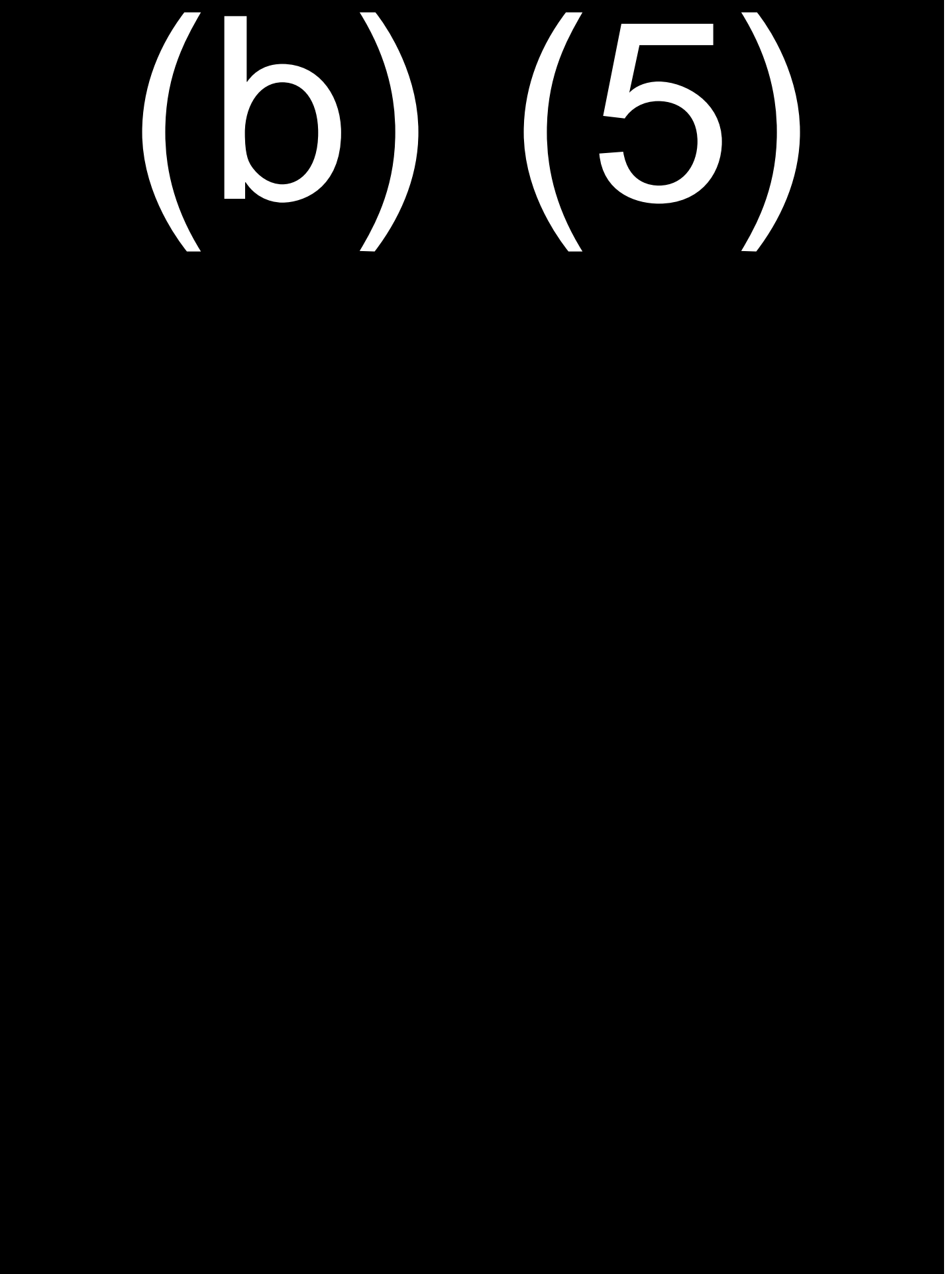
(b) (5)



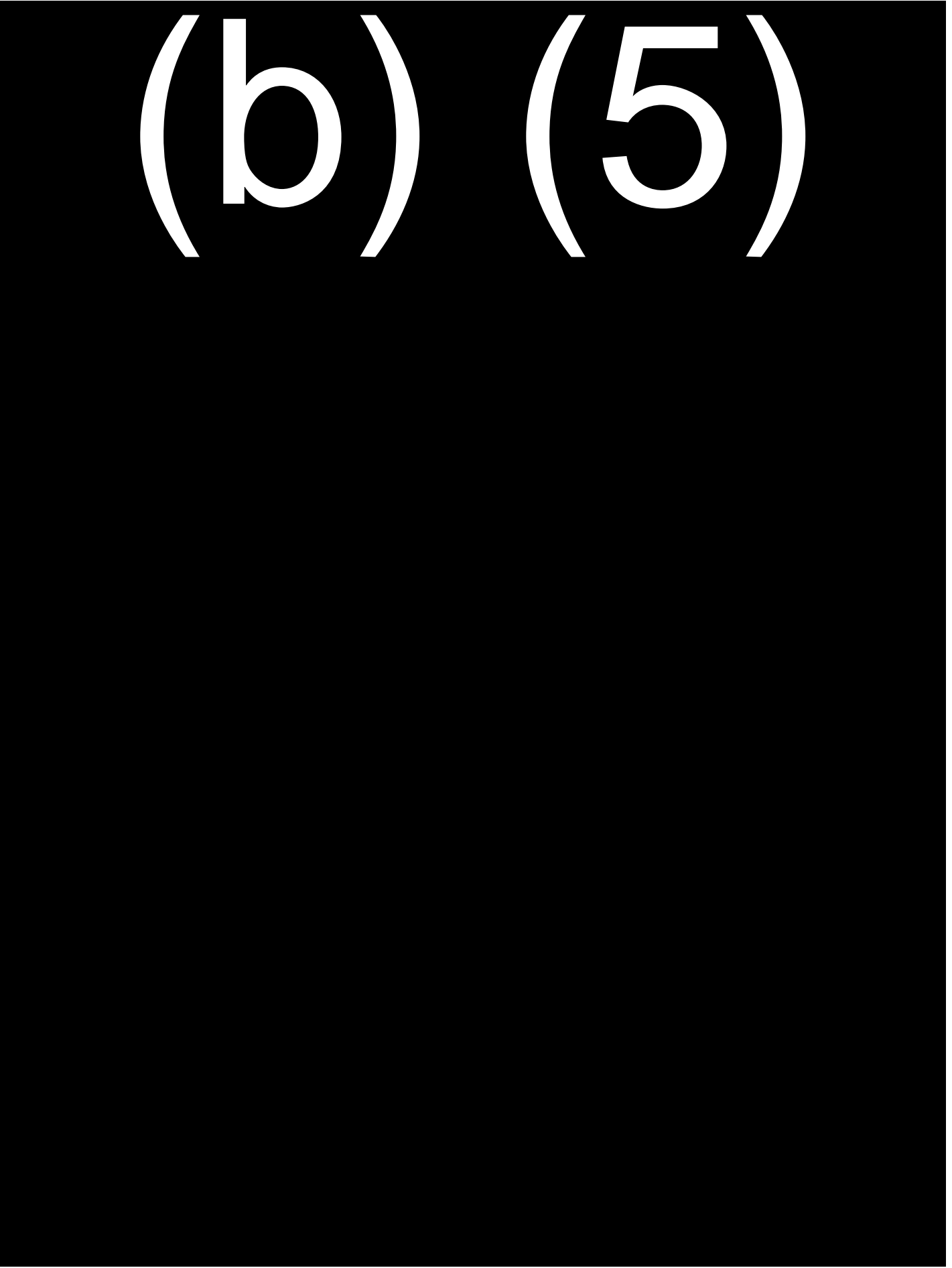
(b) (5)



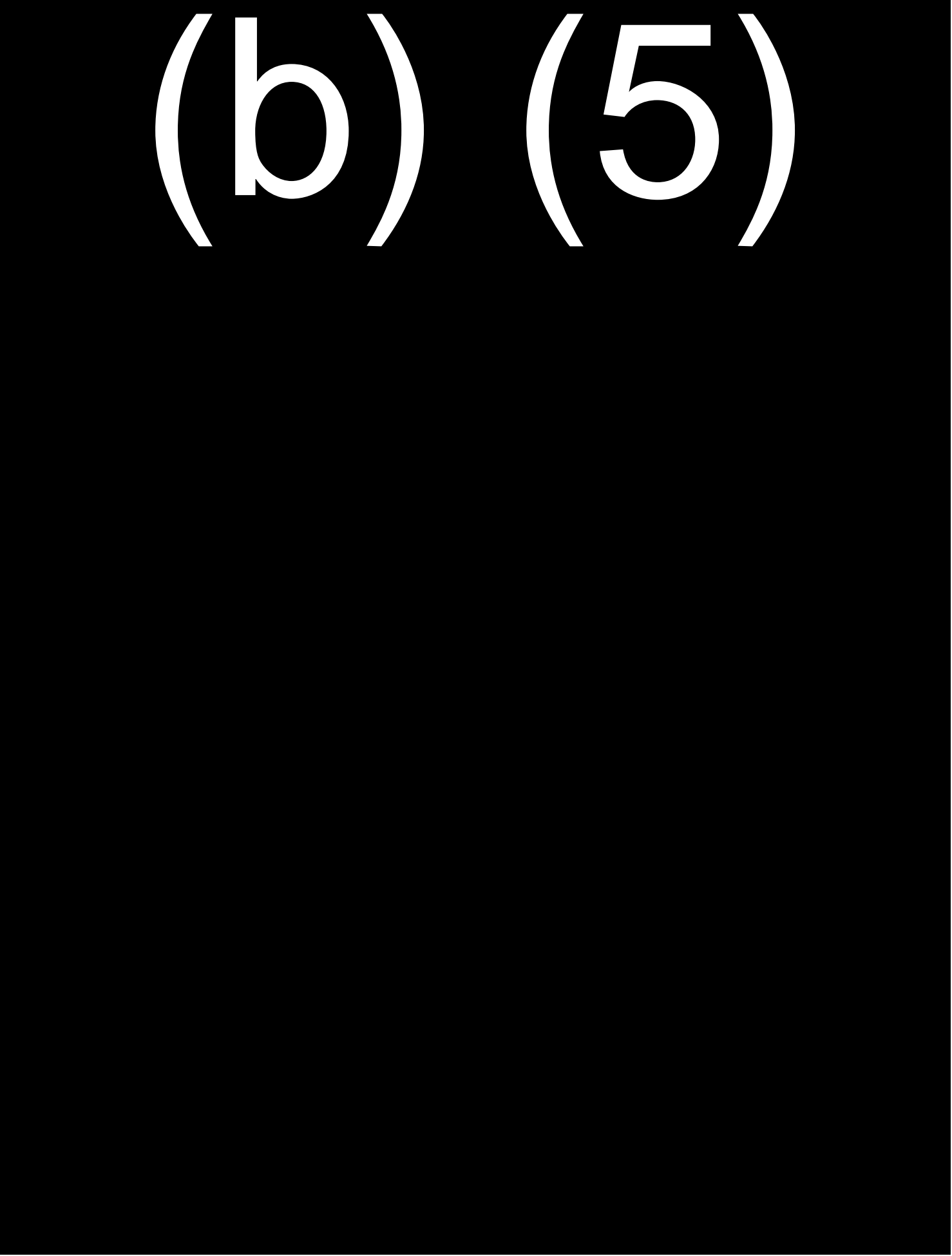
(b) (5)



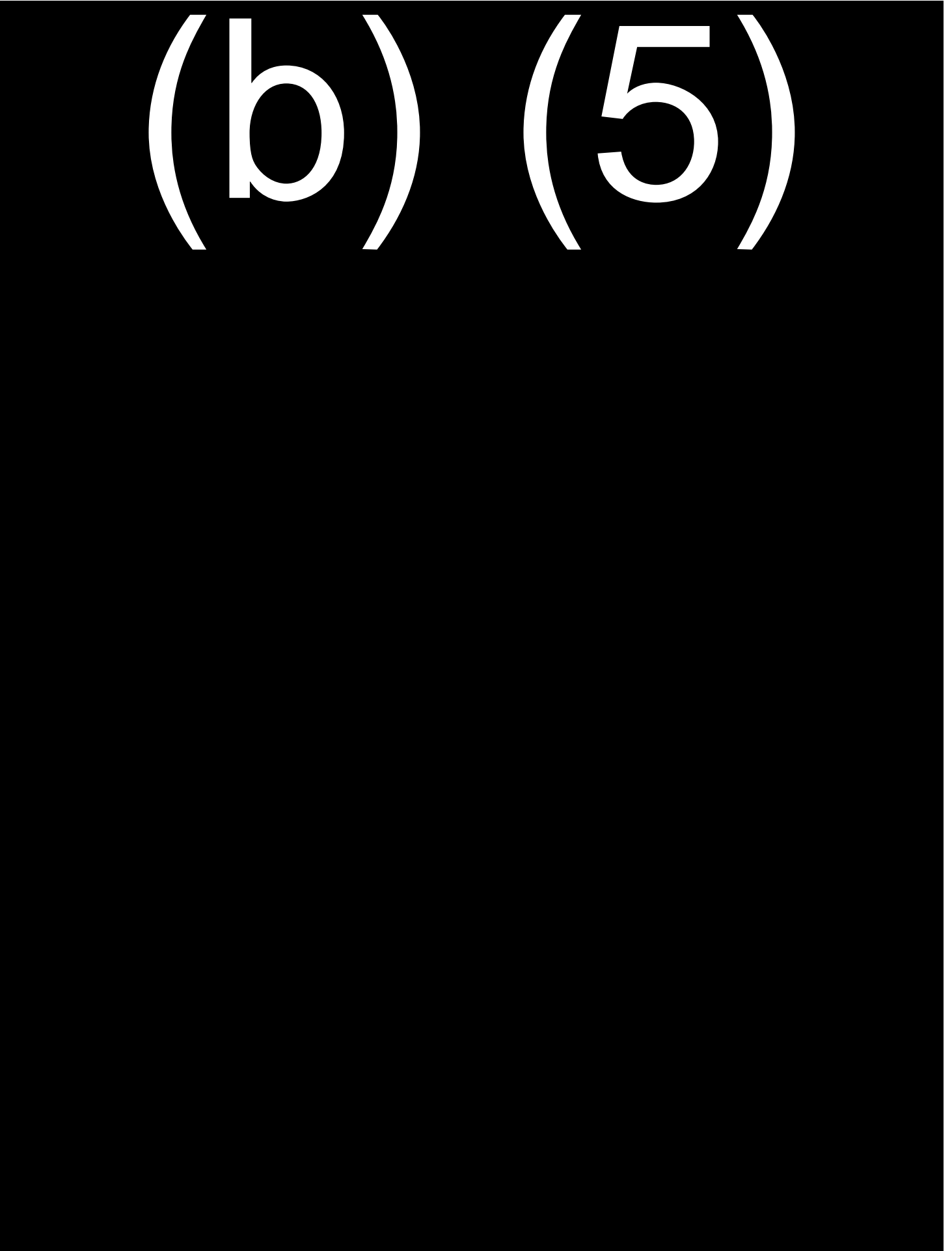
(b) (5)



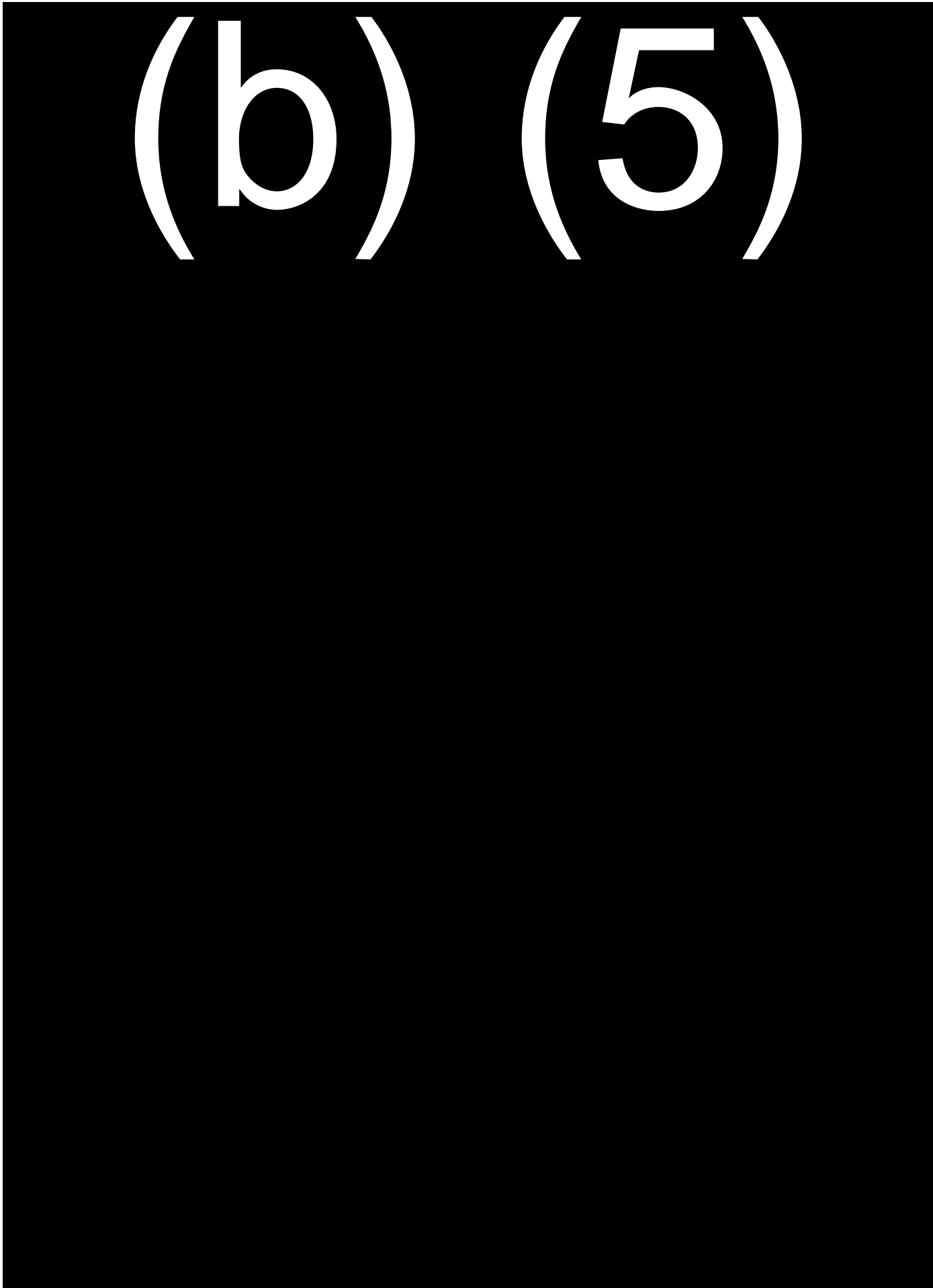
(b) (5)



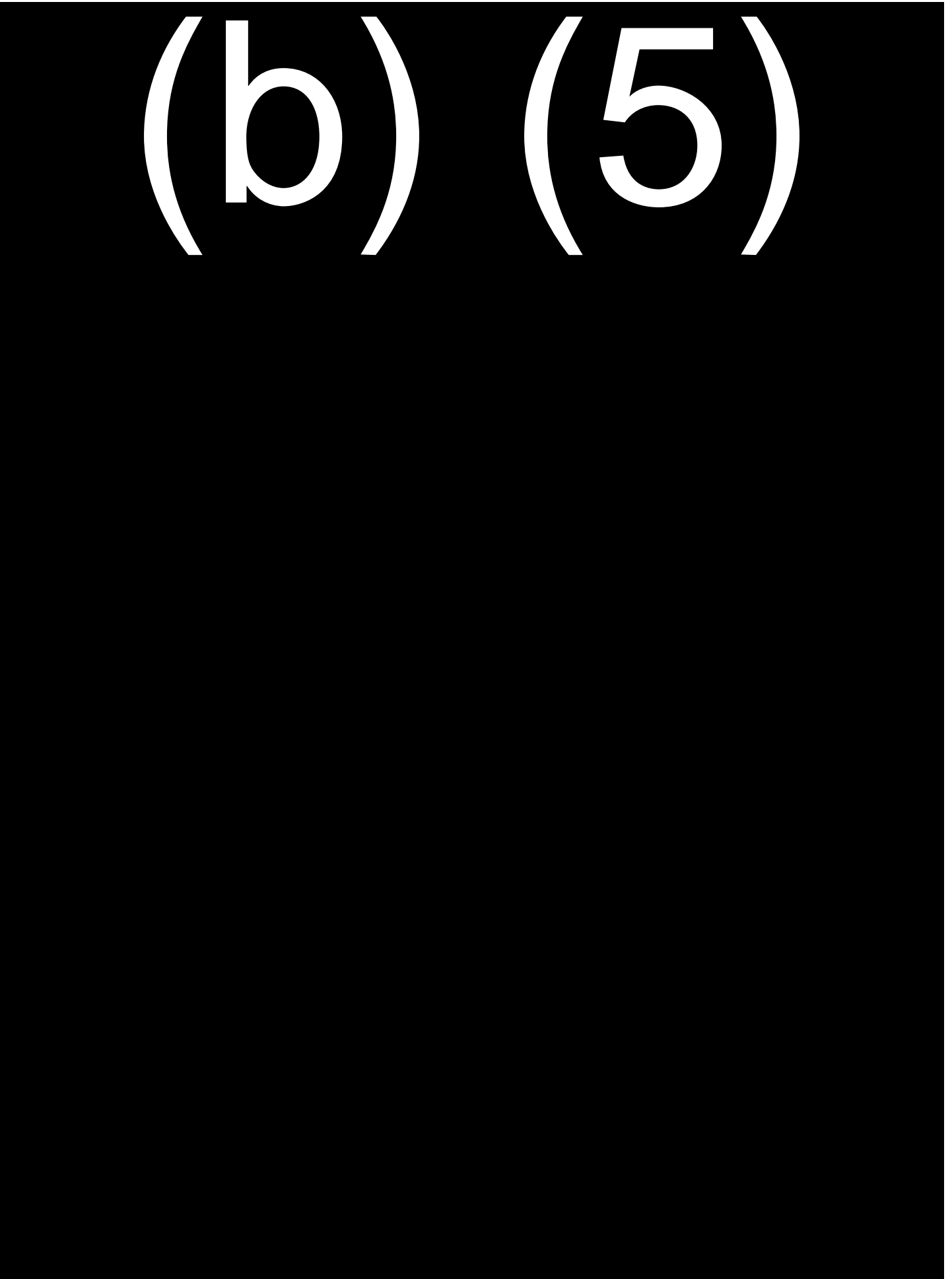
(b) (5)



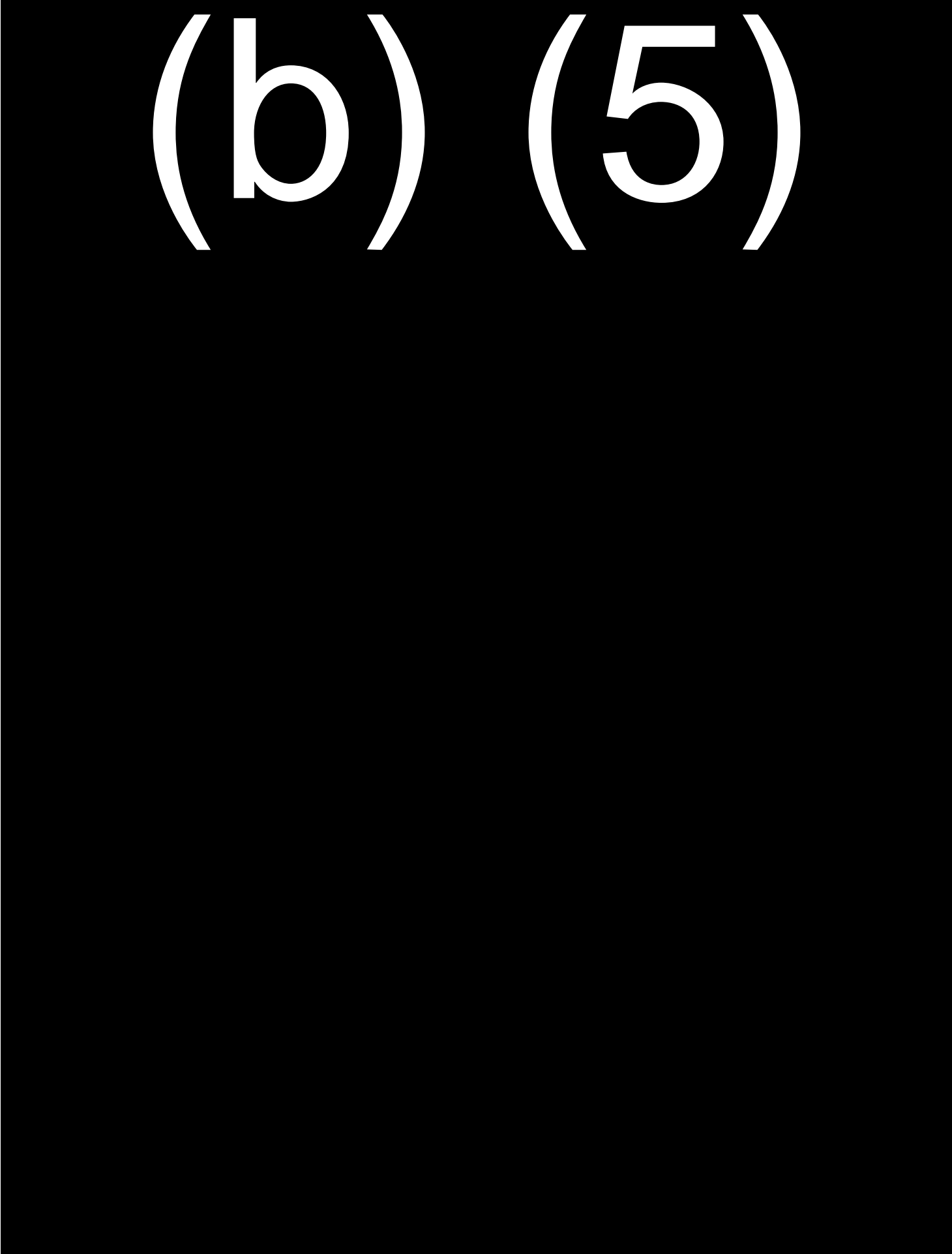
(b) (5)



(b) (5)



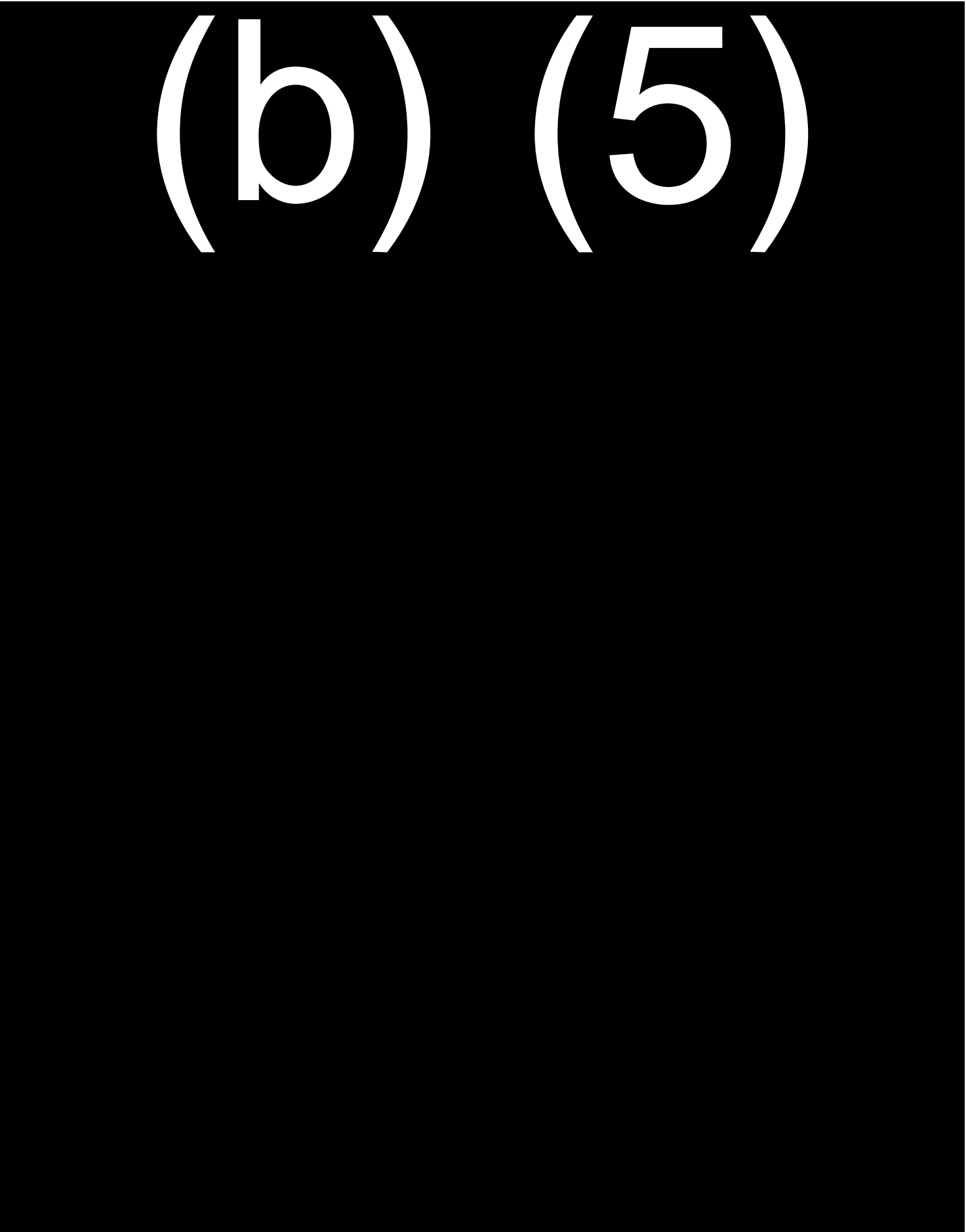
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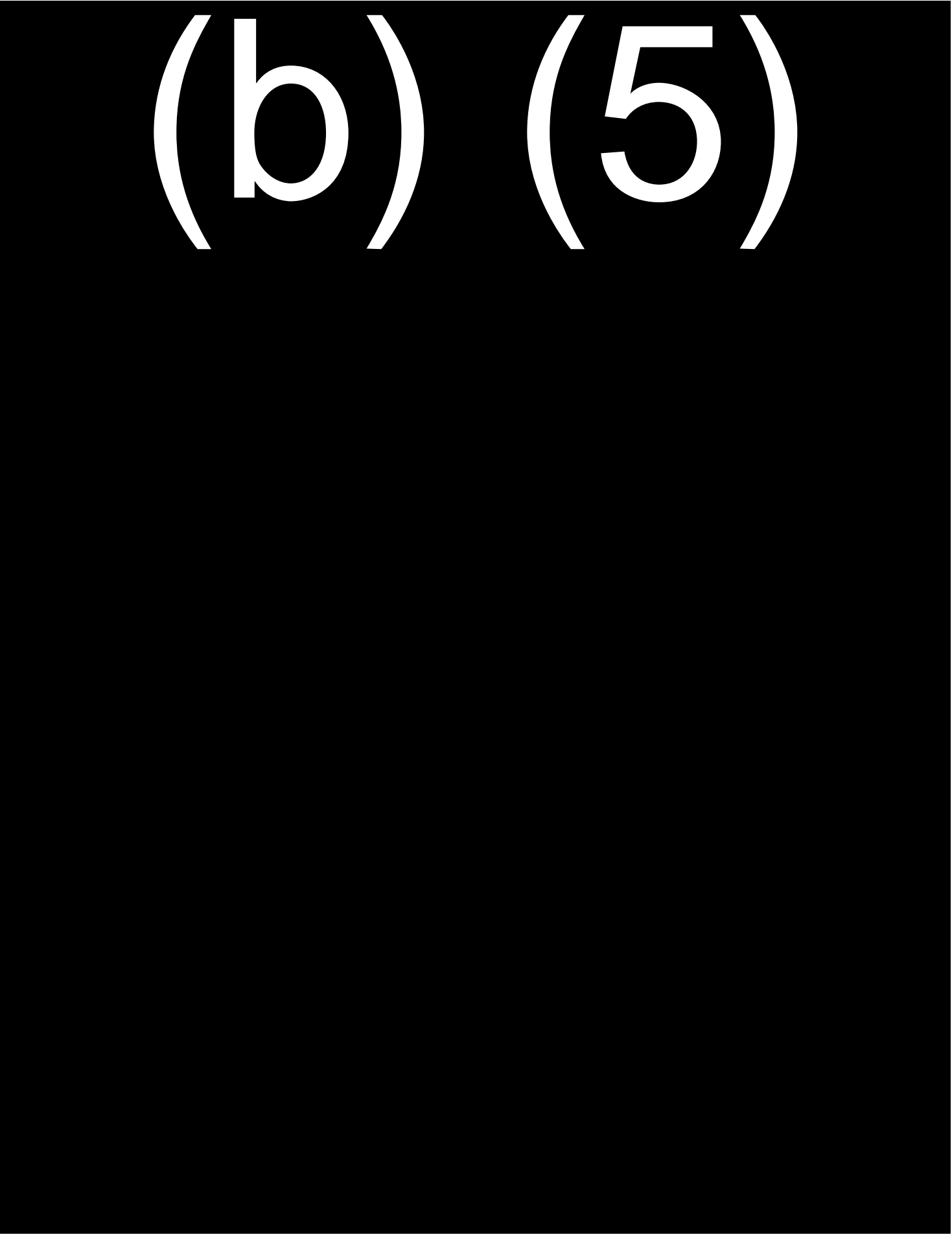
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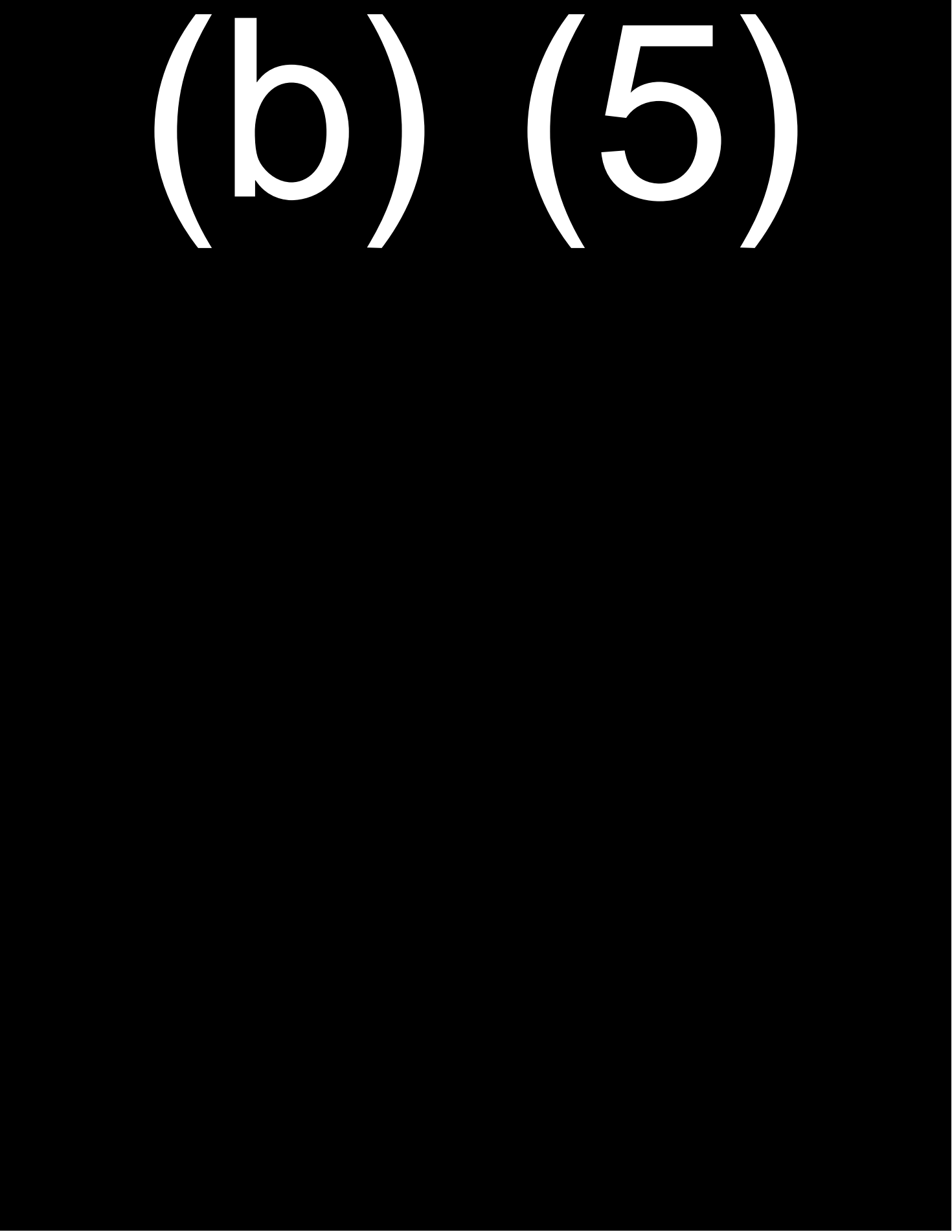


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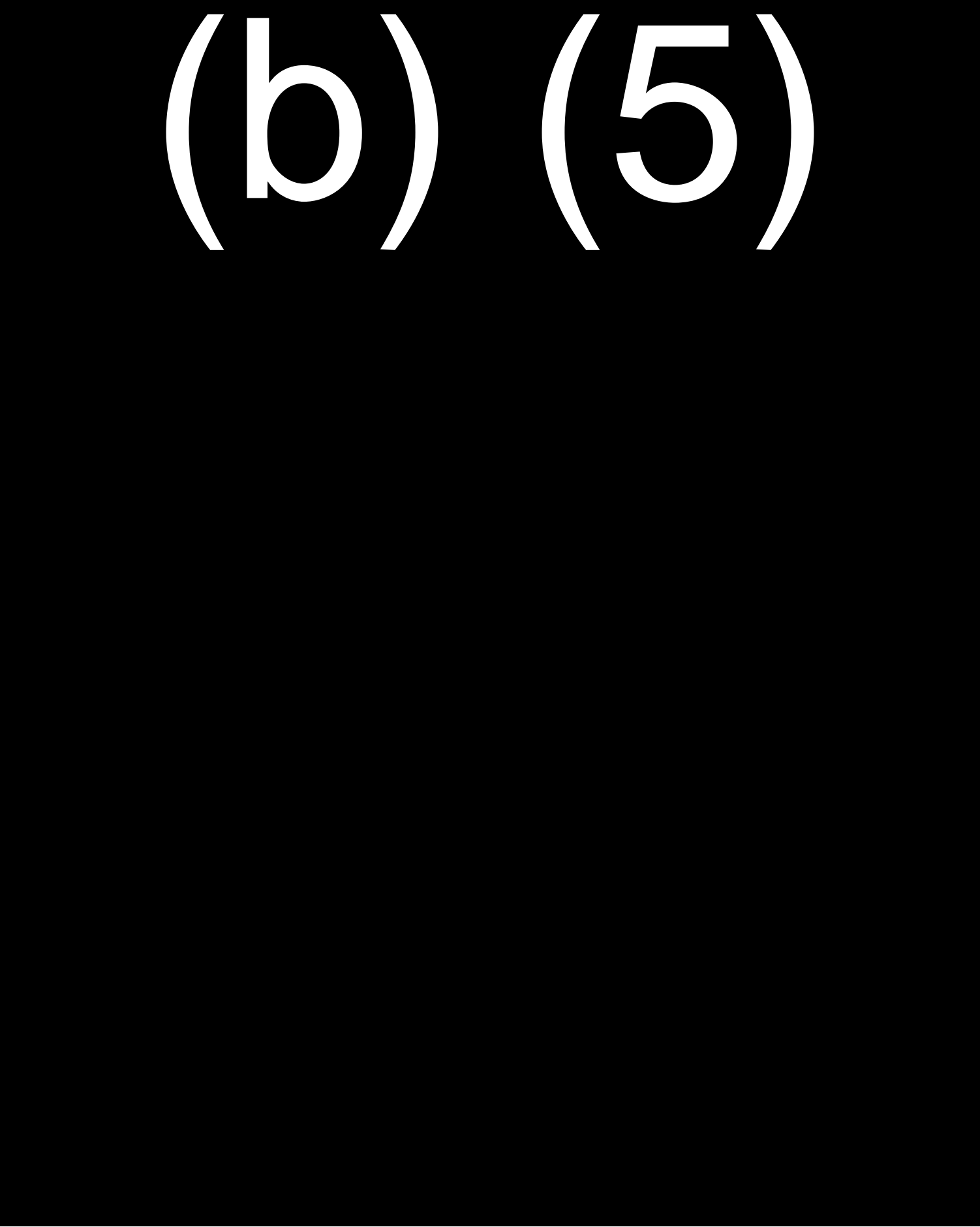


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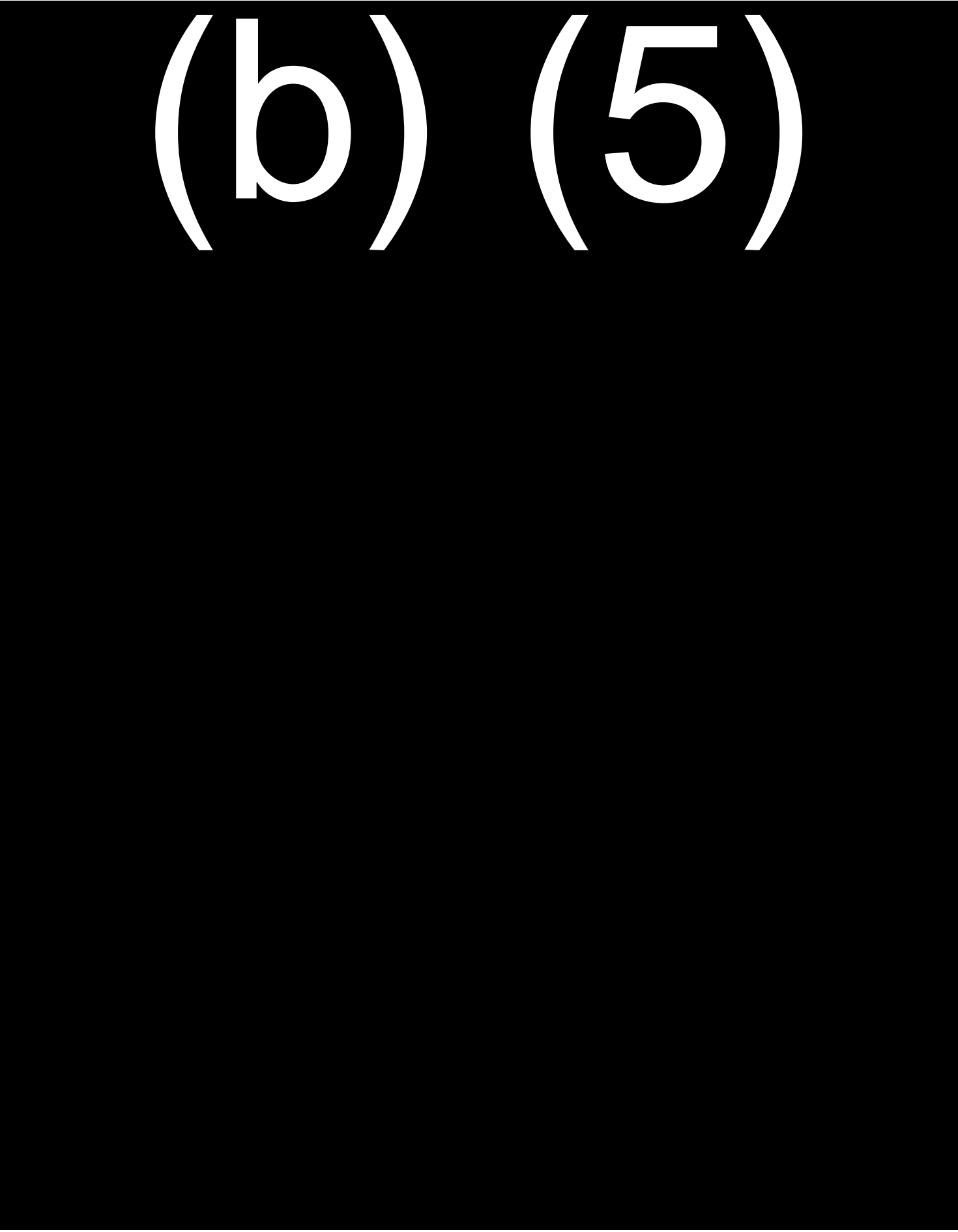


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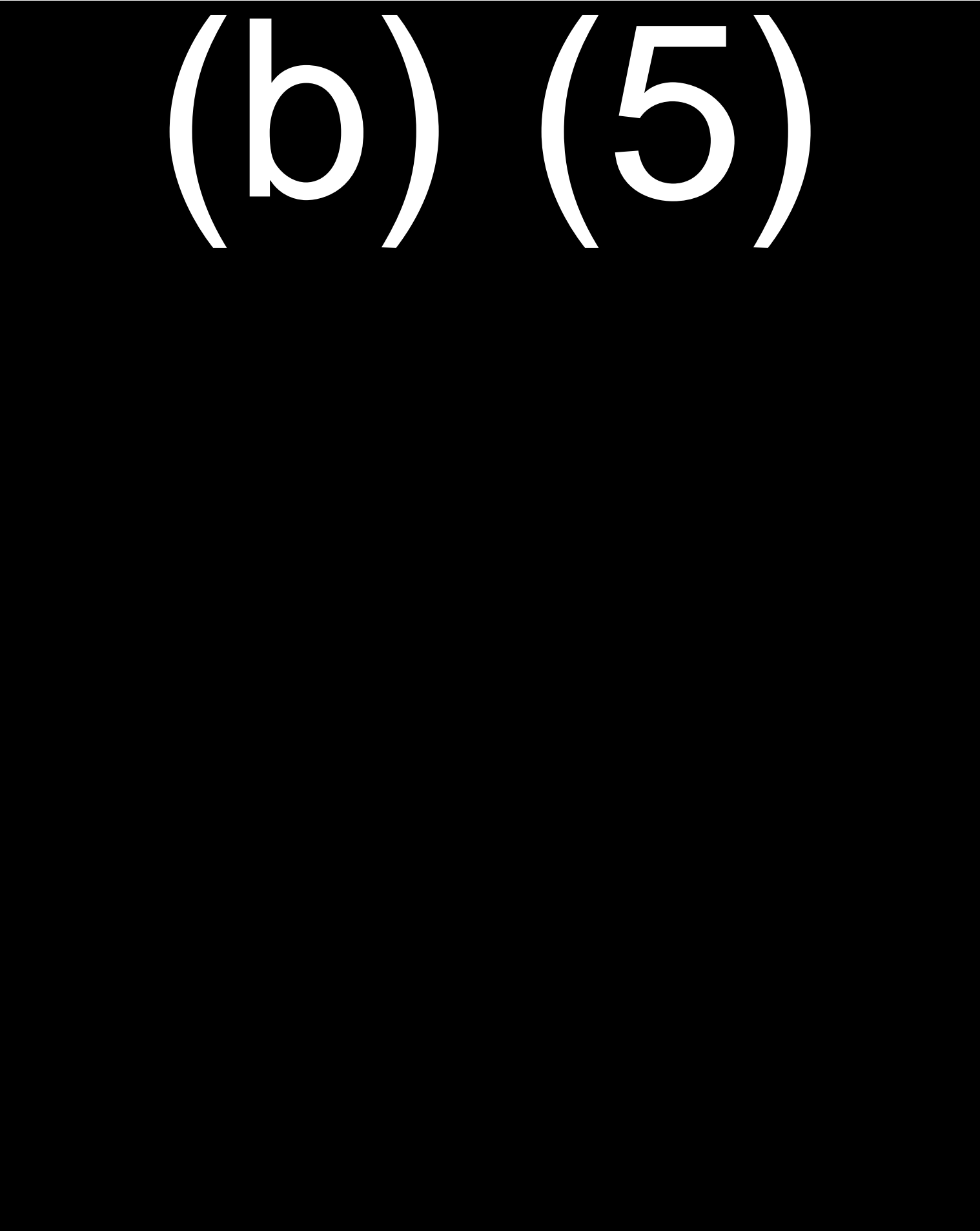
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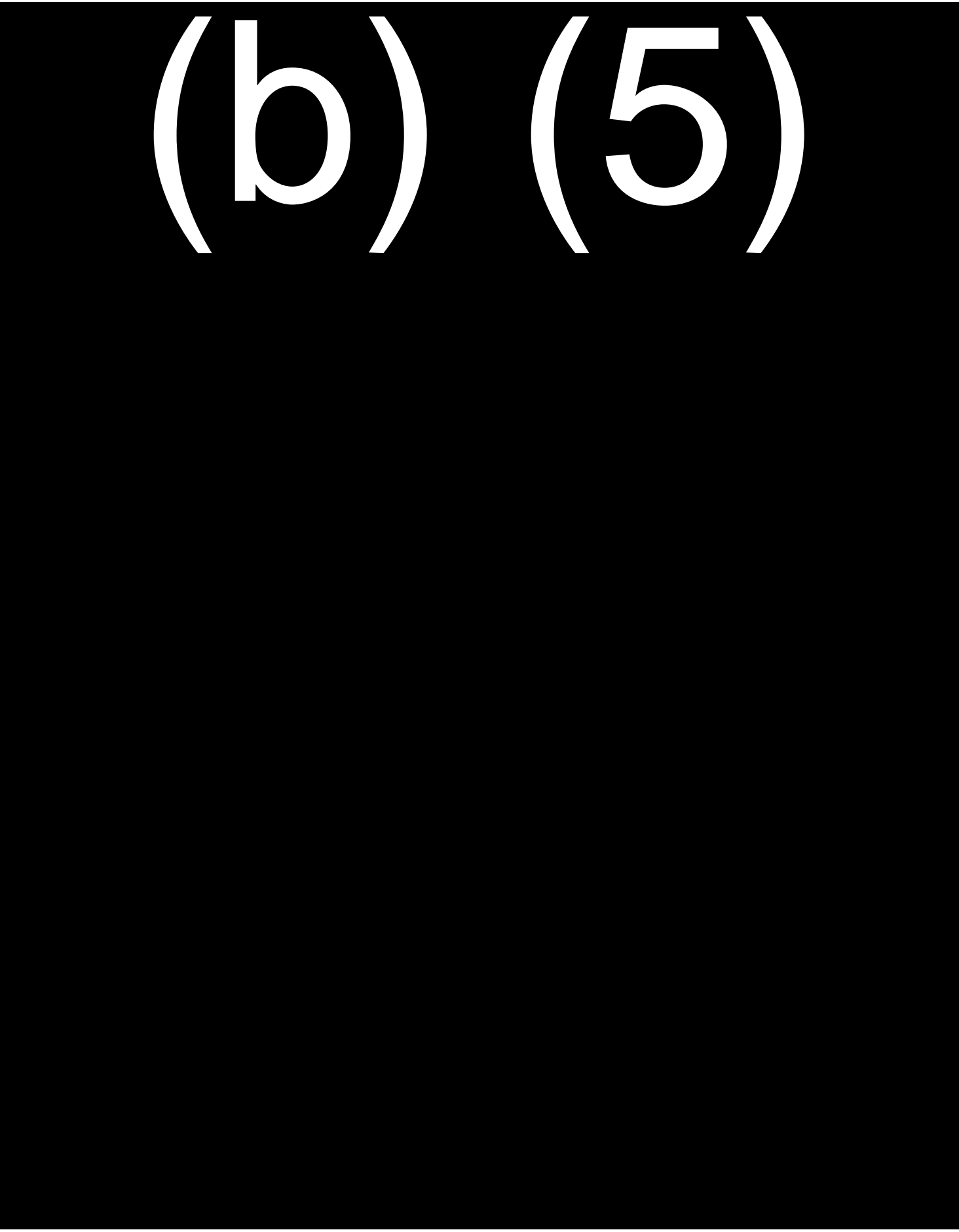
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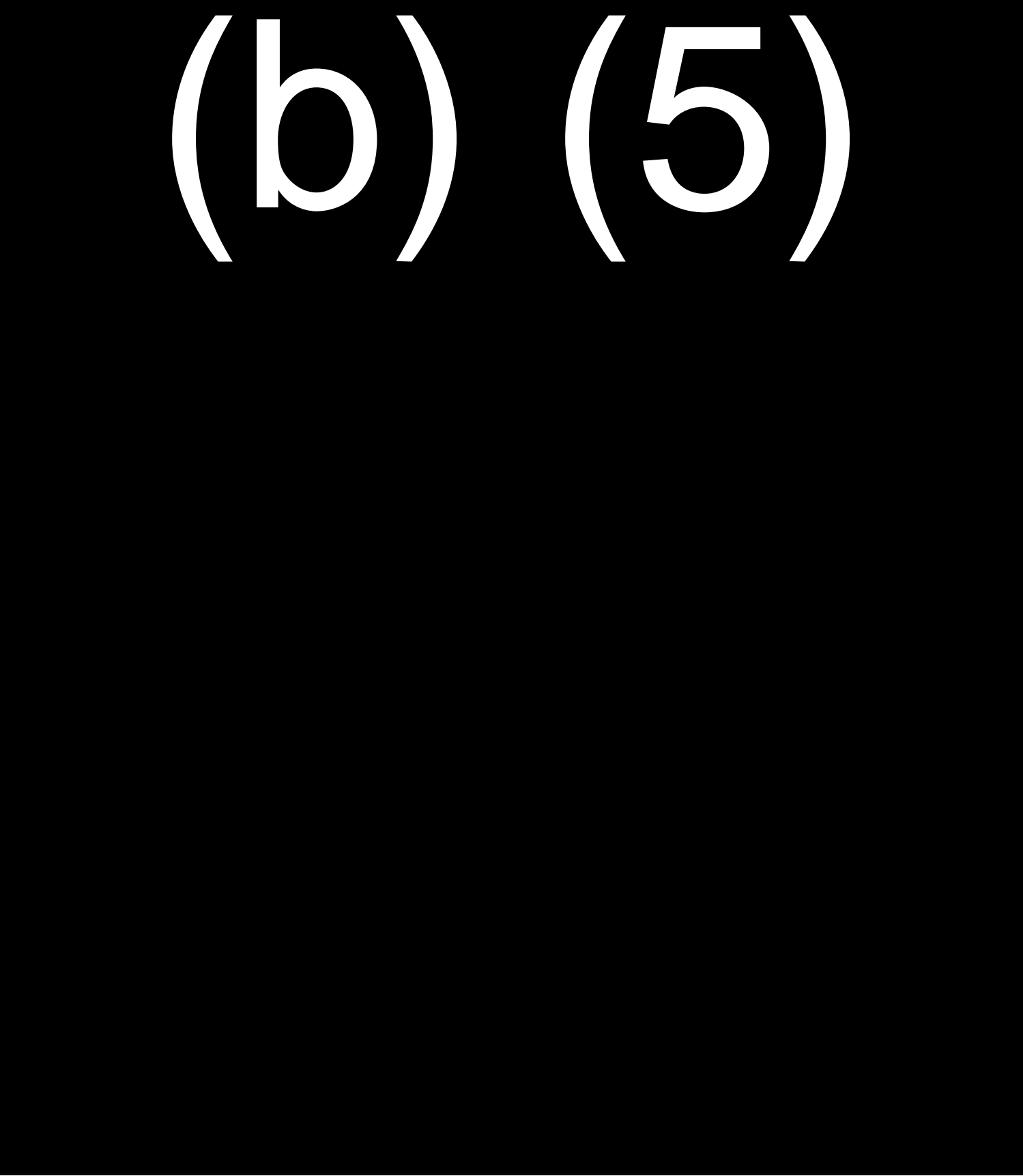
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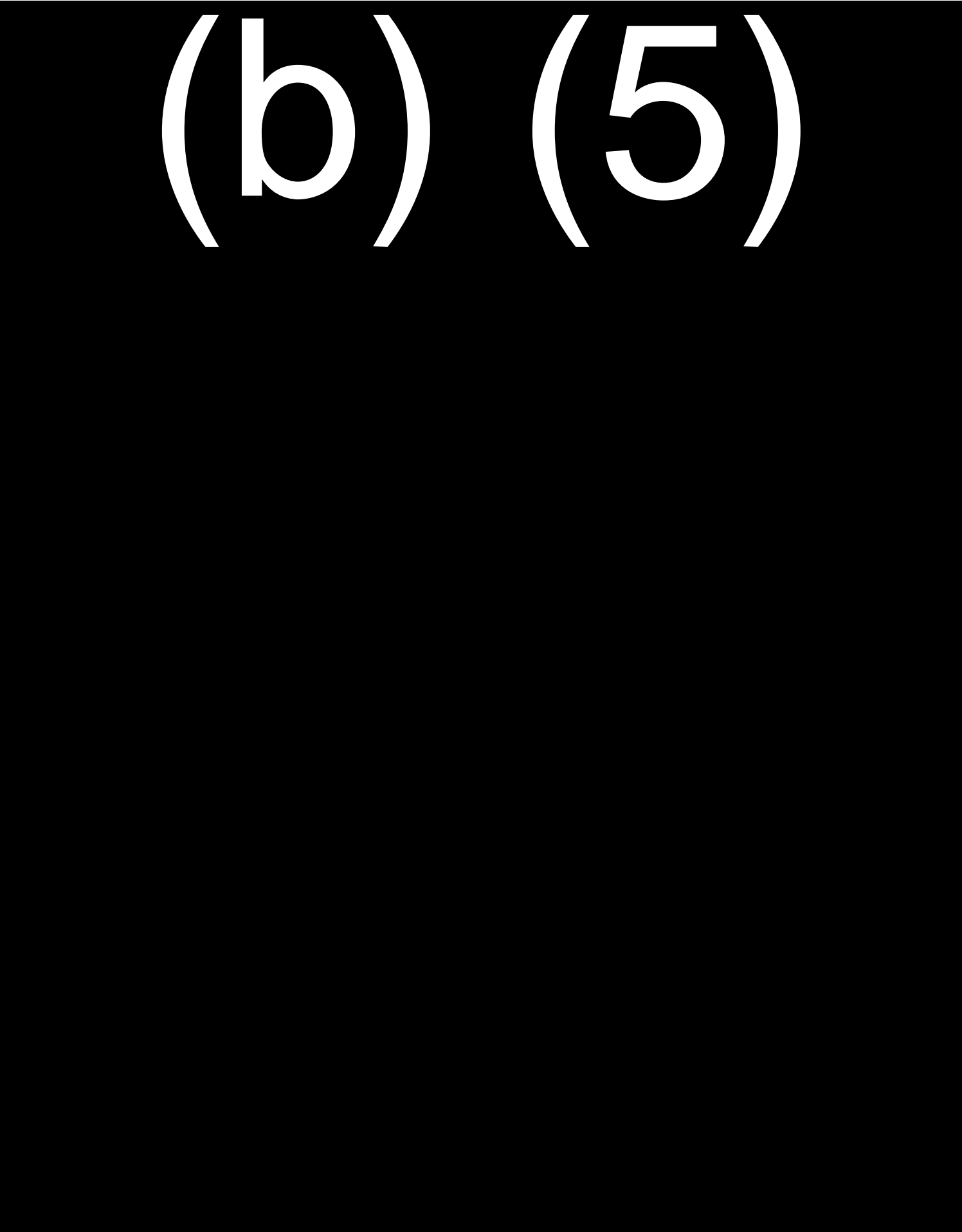
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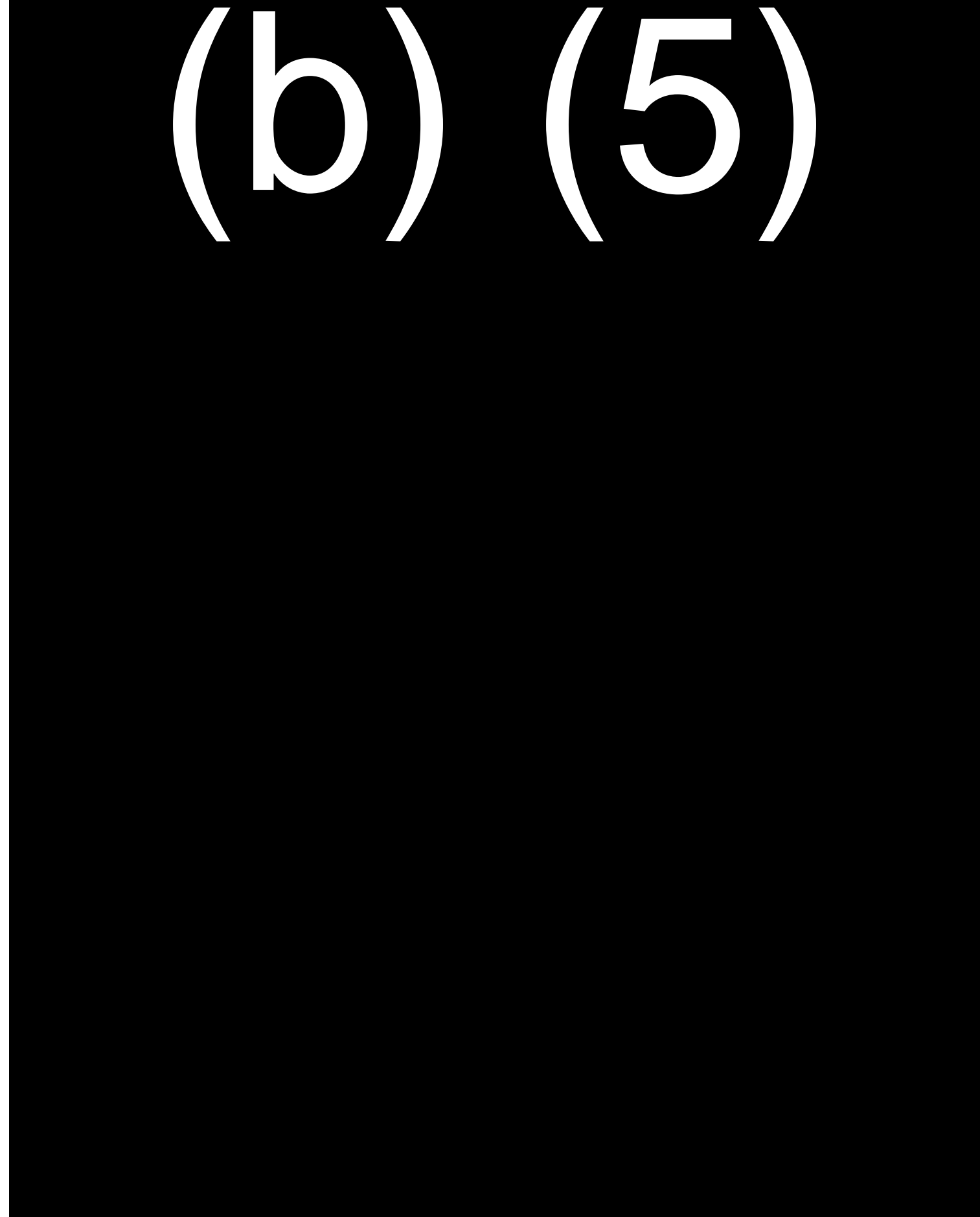
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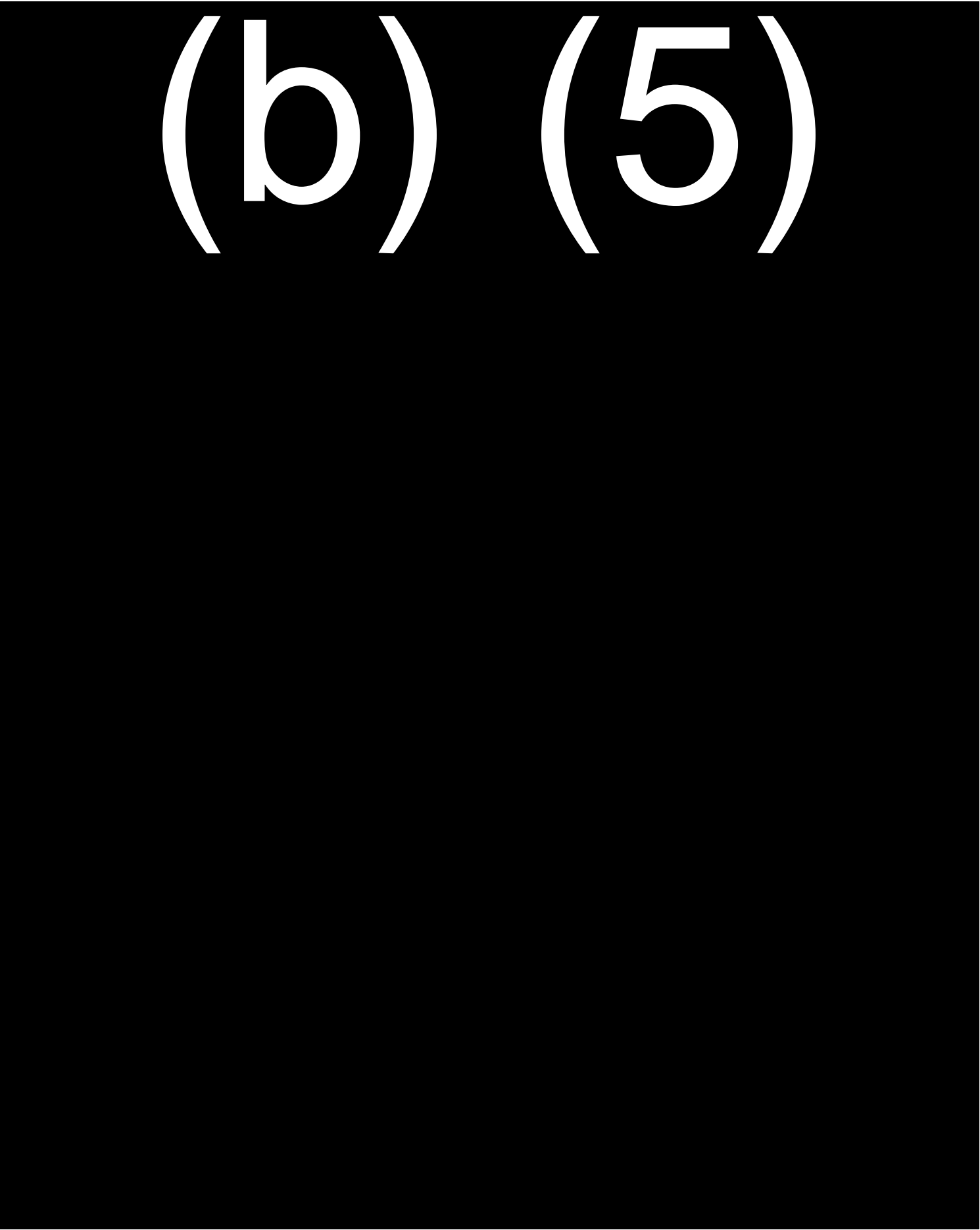
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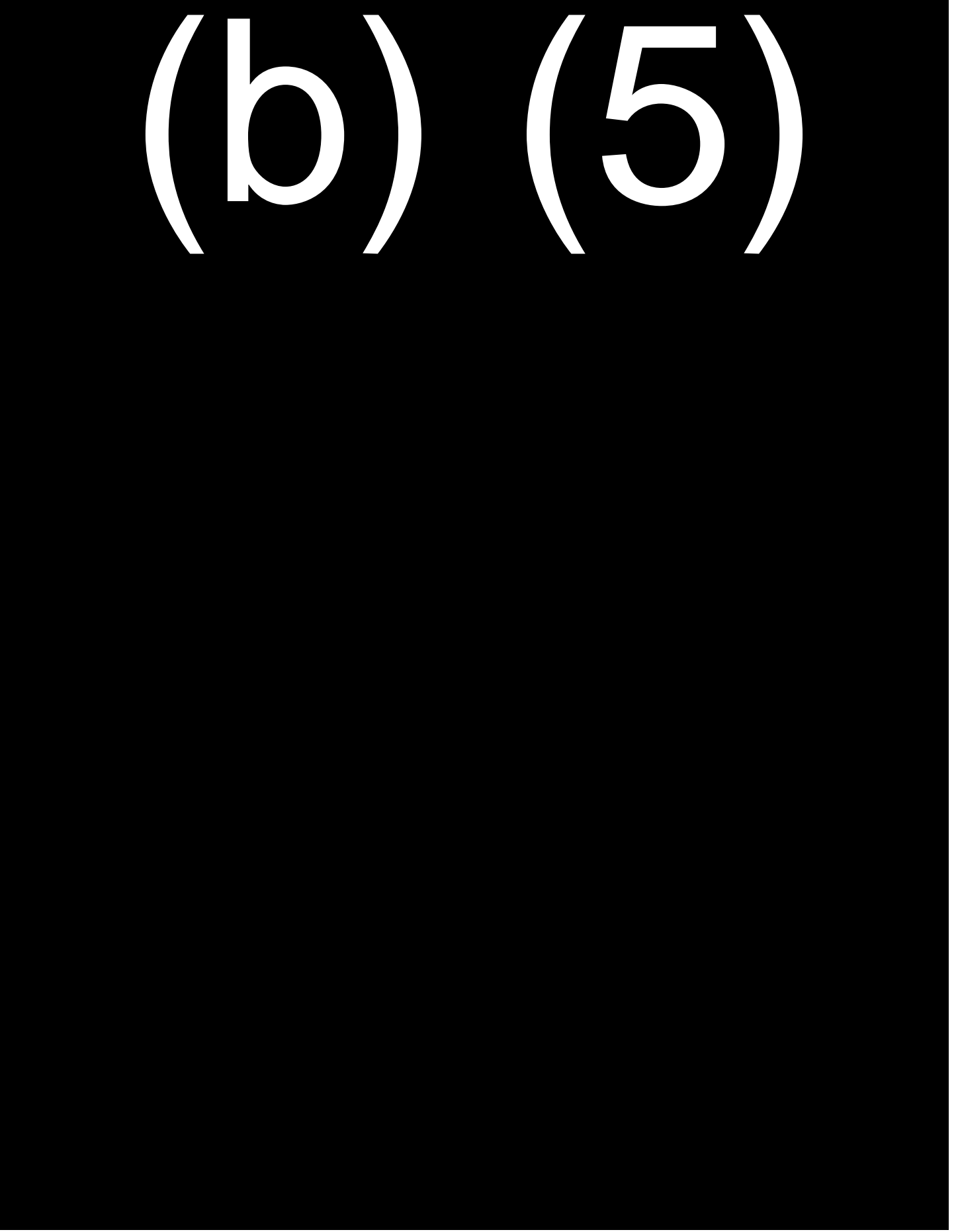


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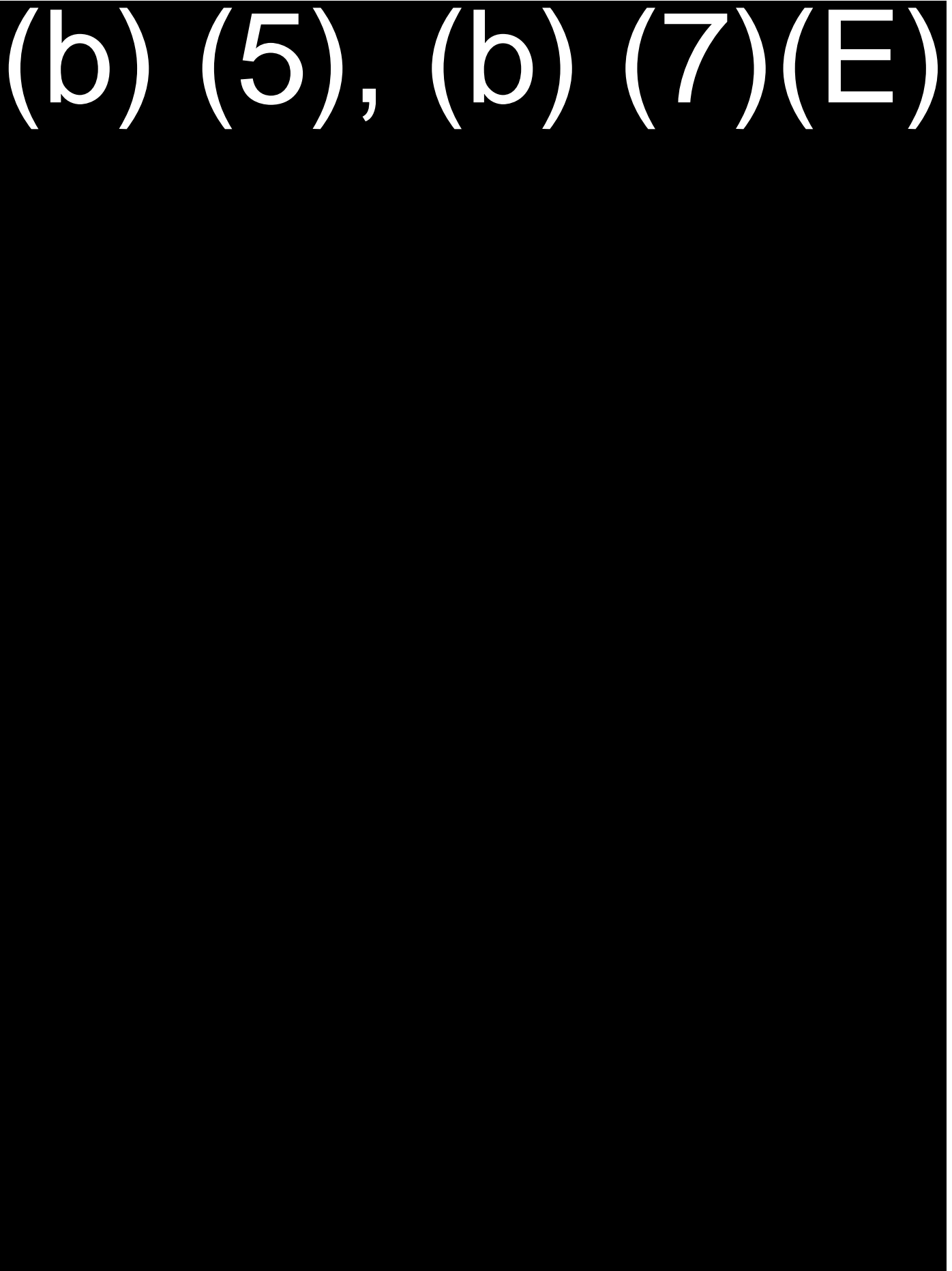


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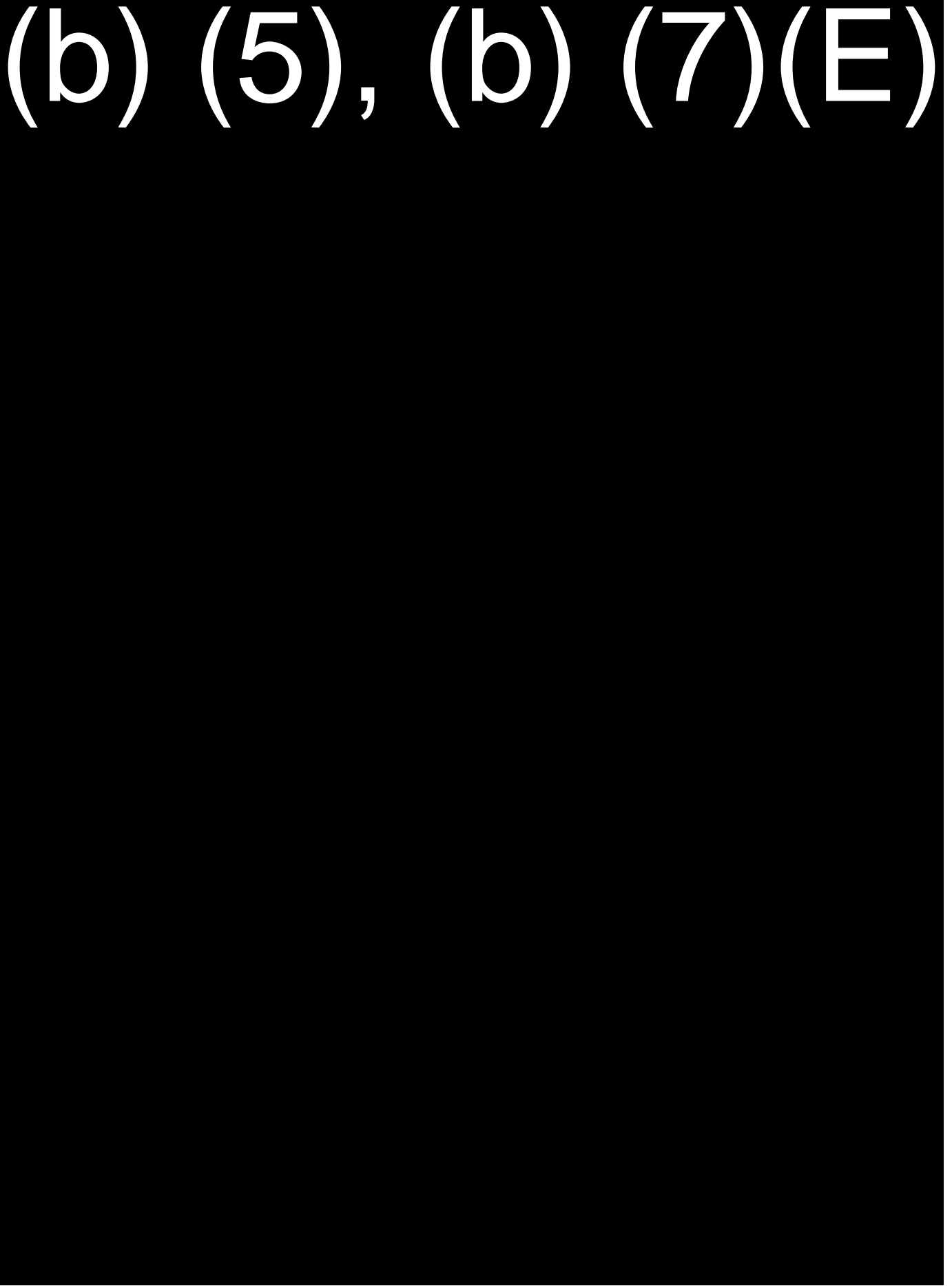
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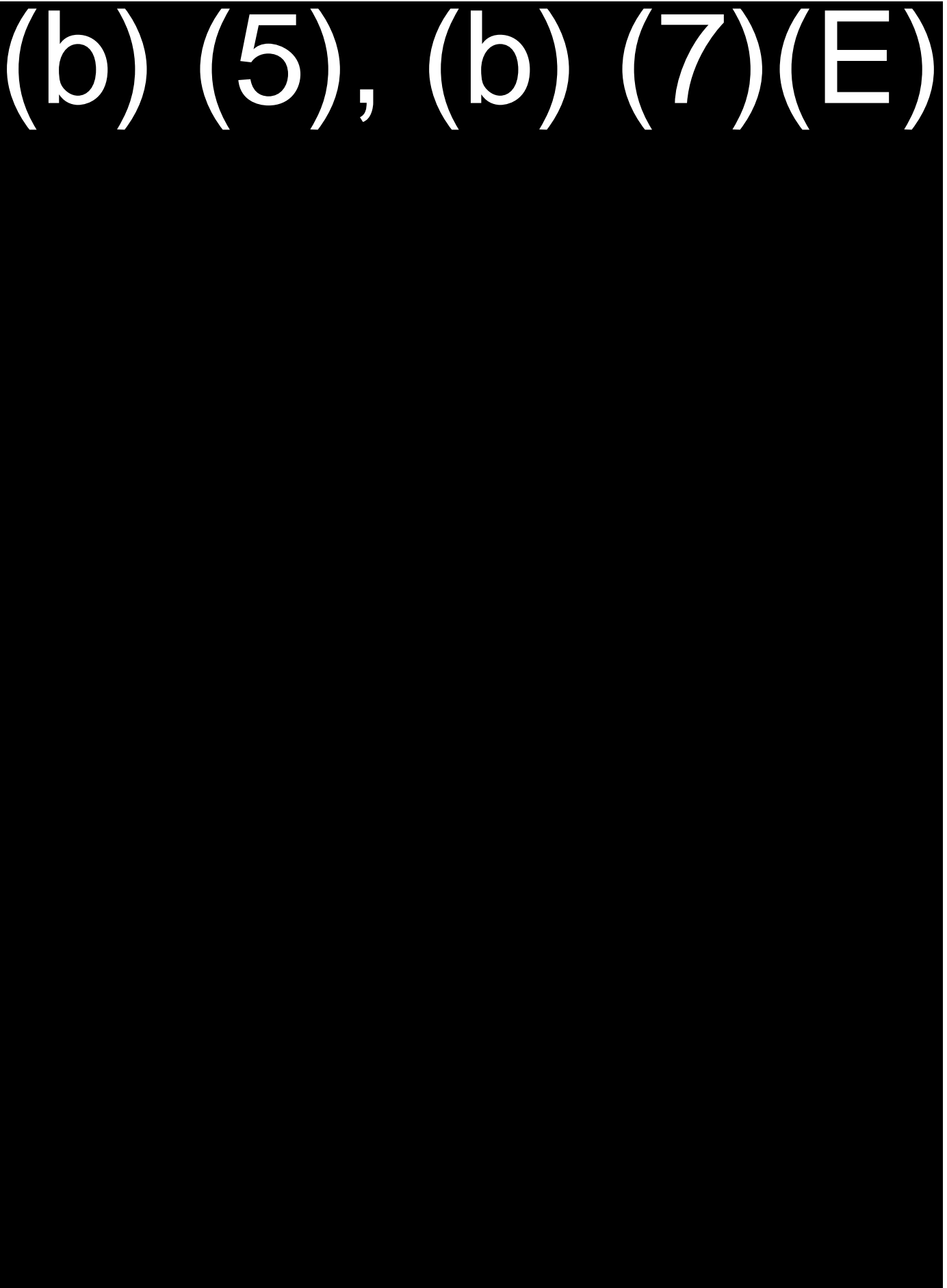
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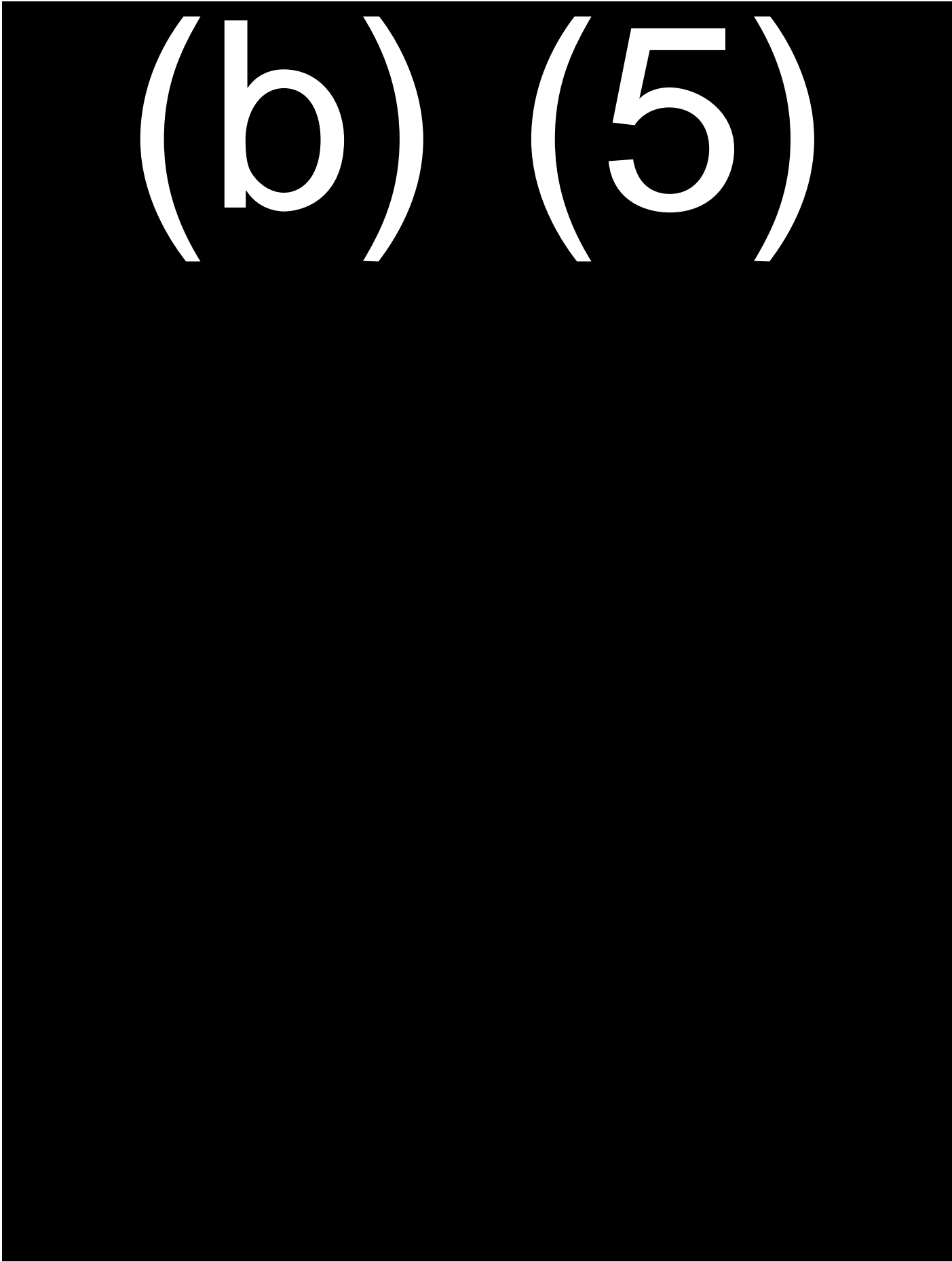
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(b) (5), (b) (7)(E)

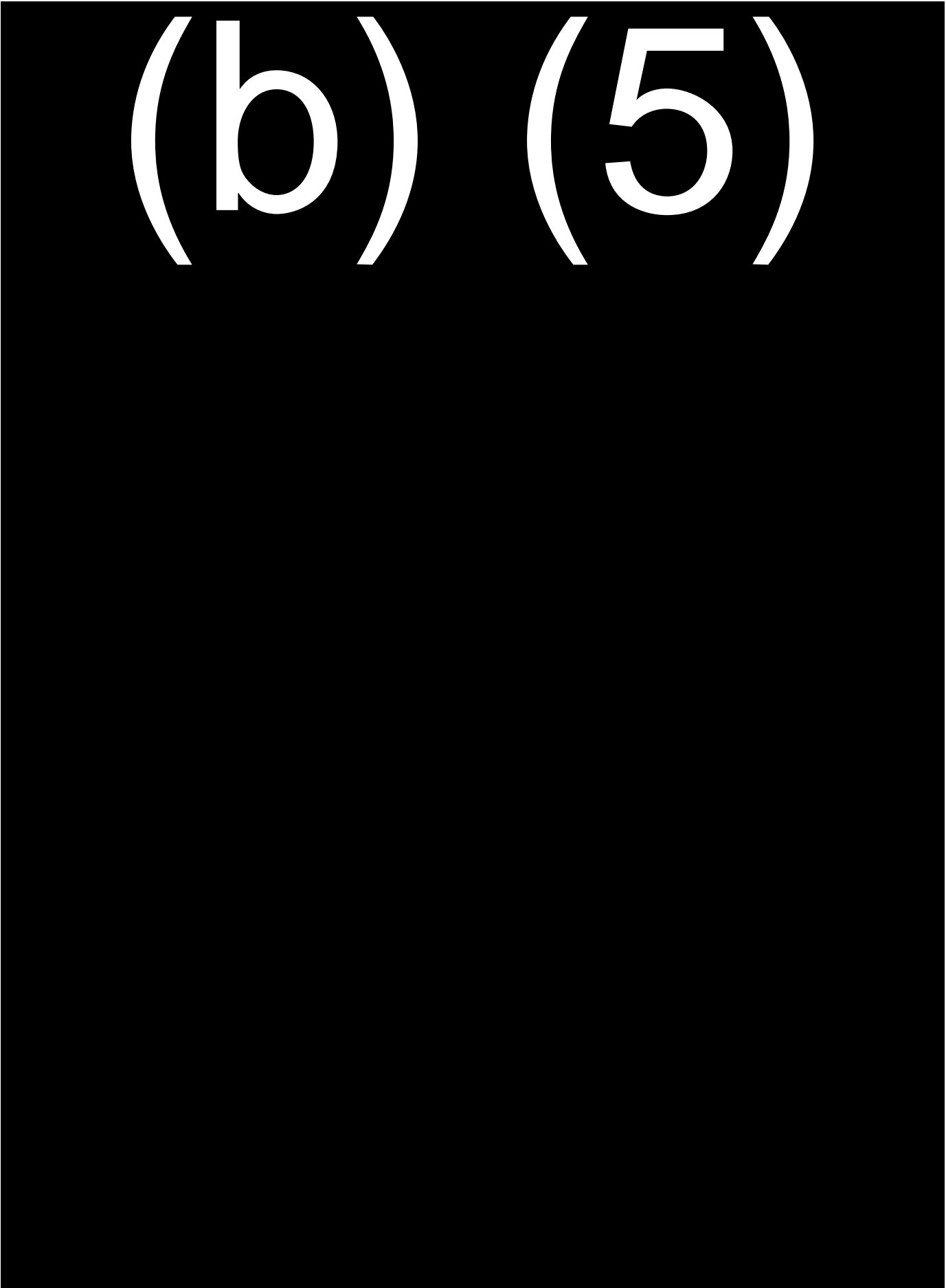


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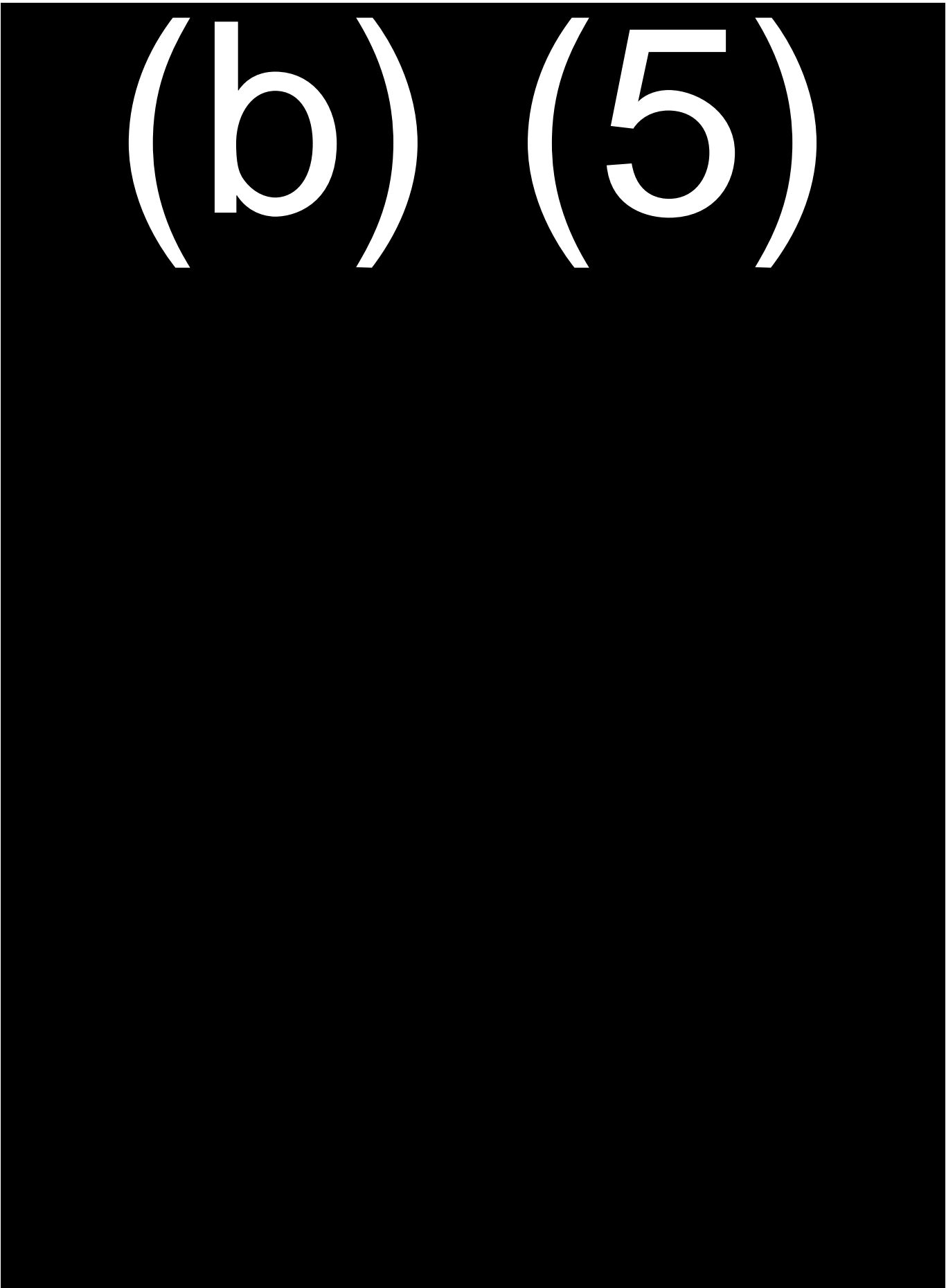


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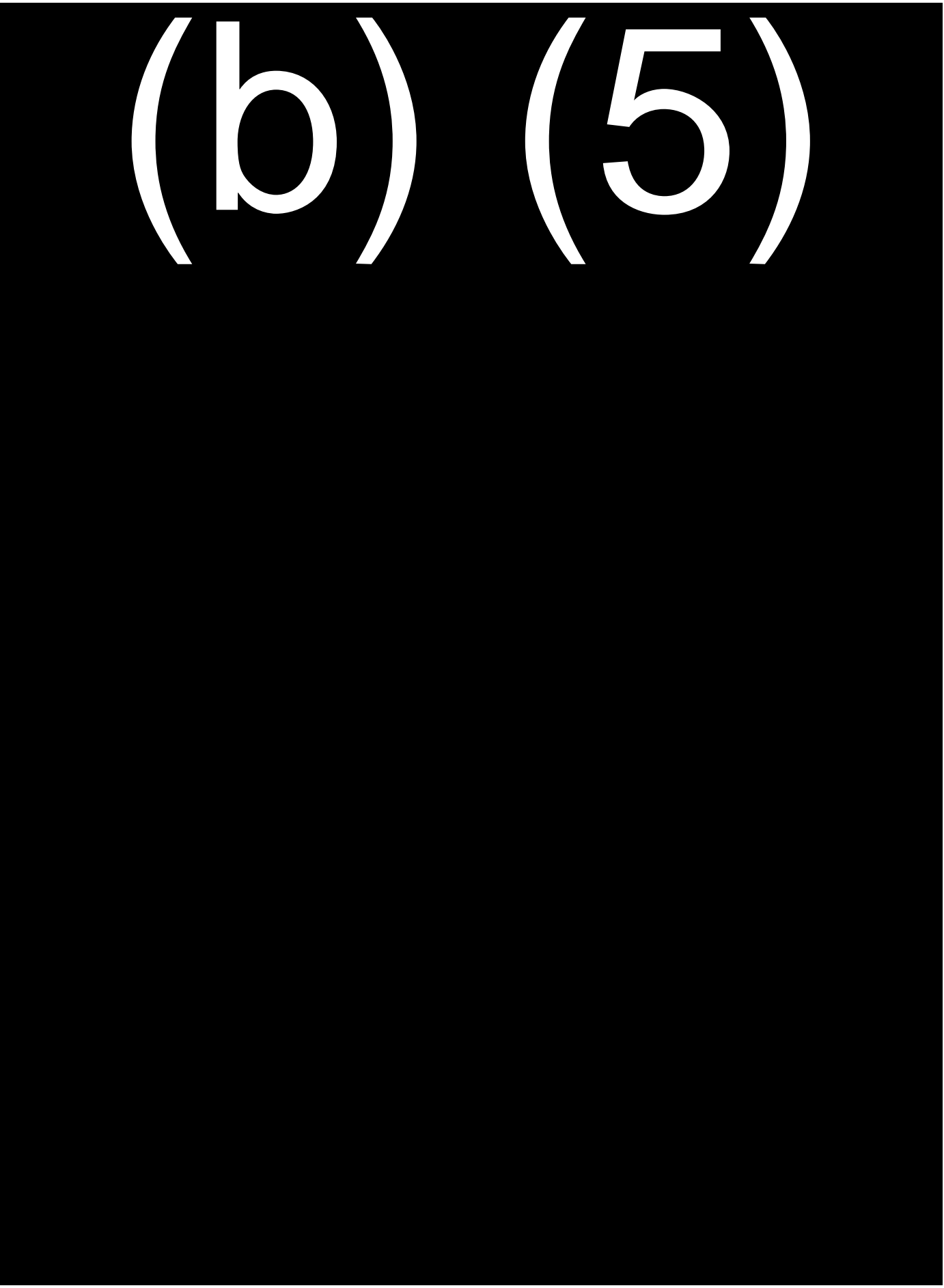
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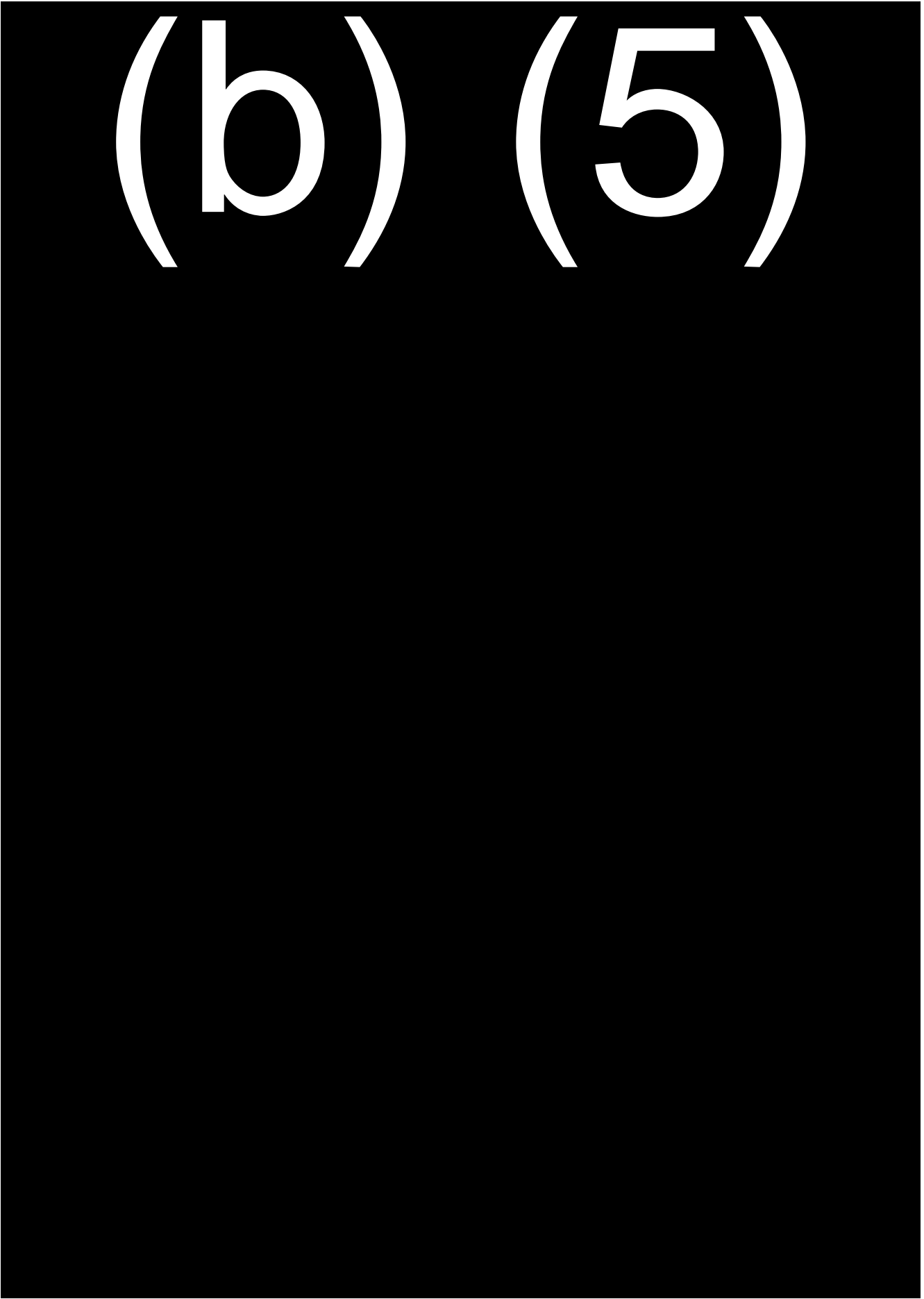
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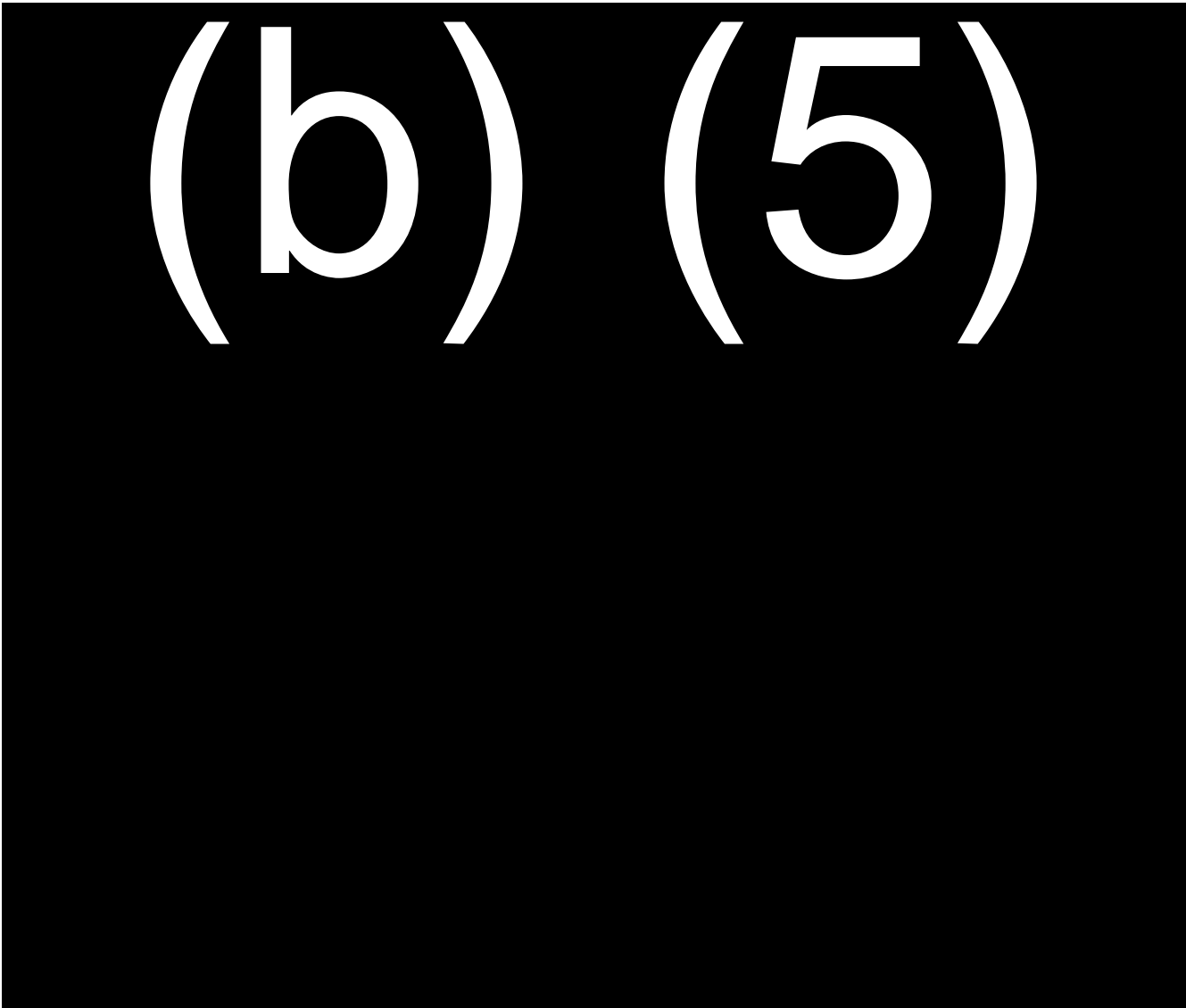


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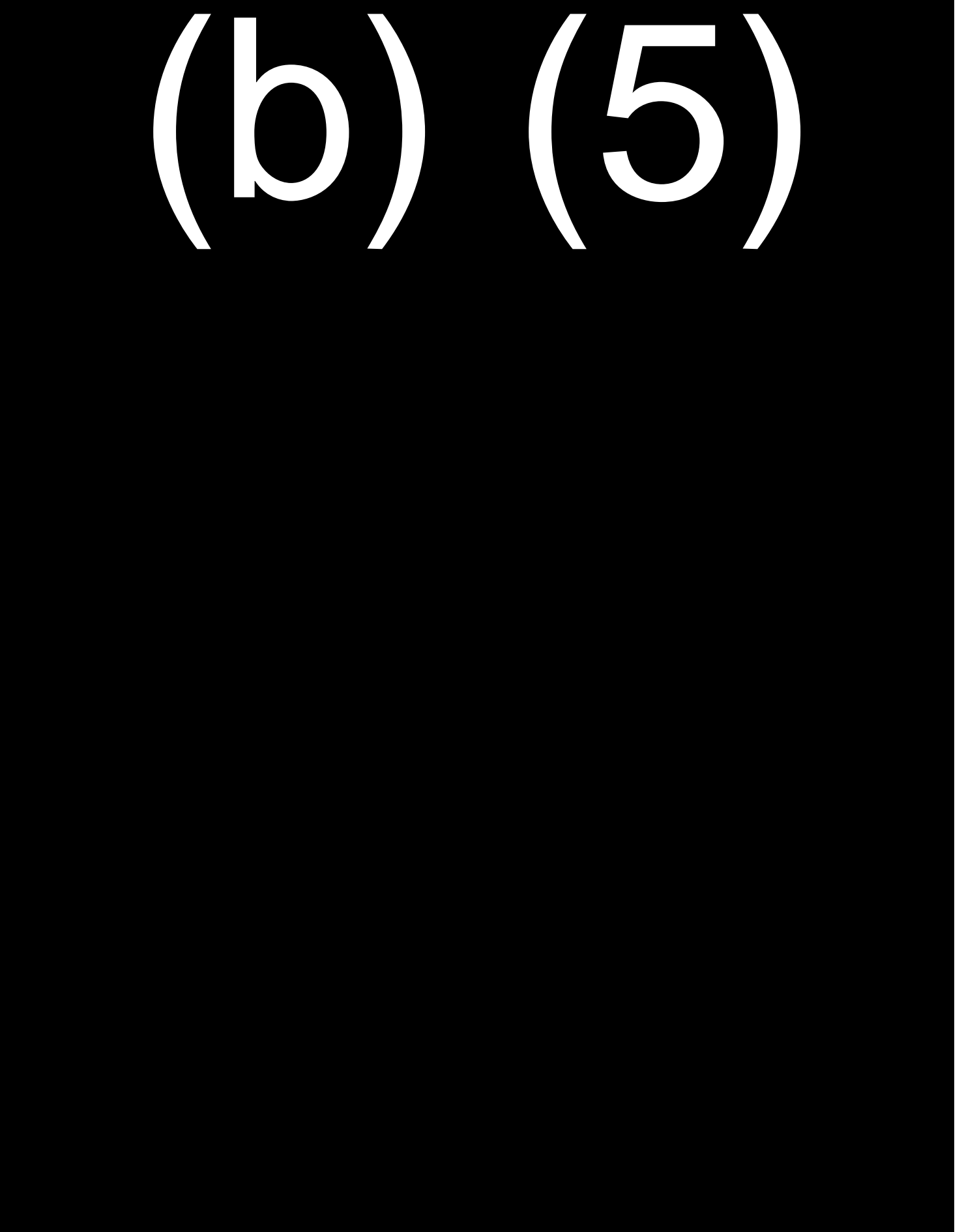
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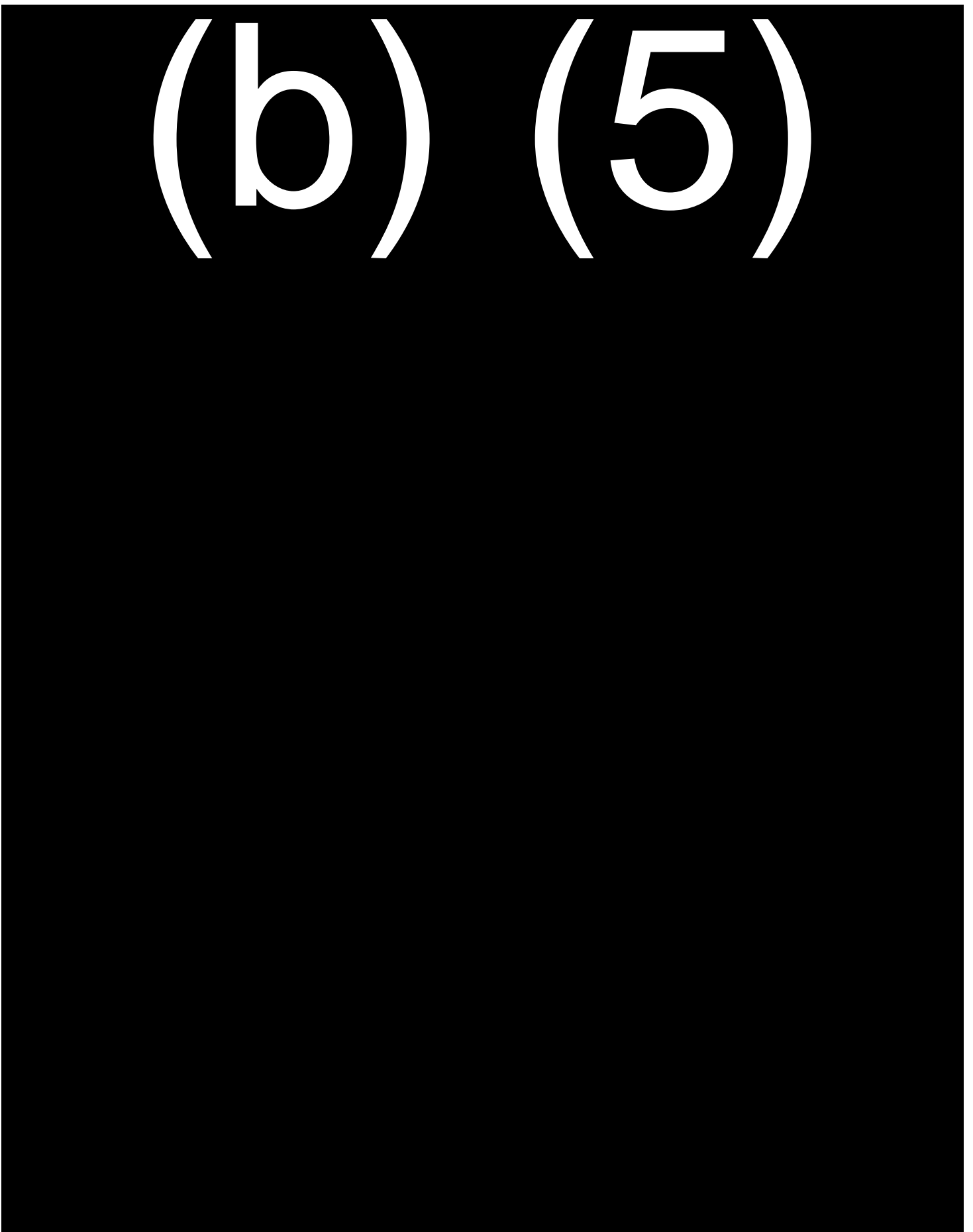
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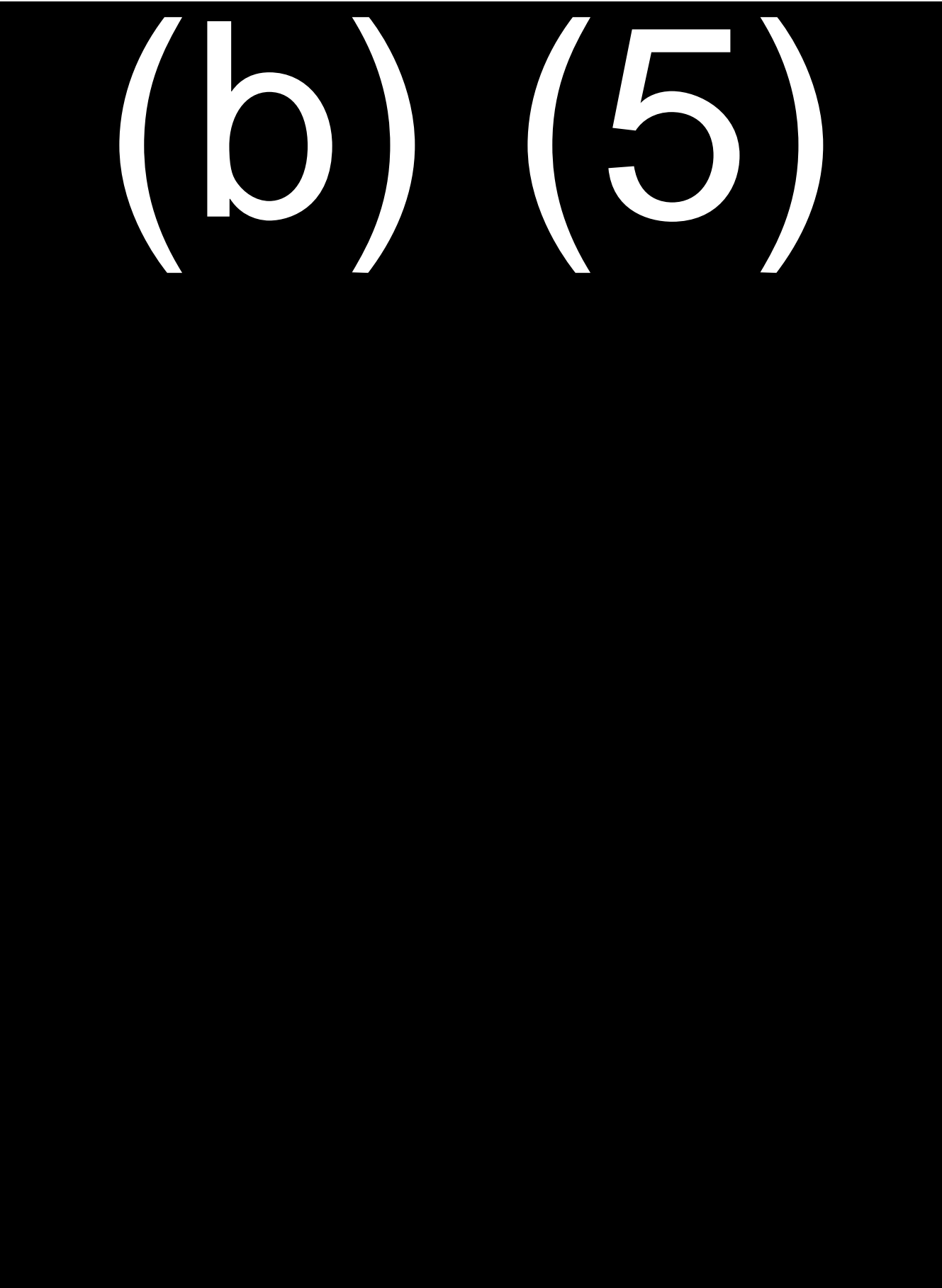
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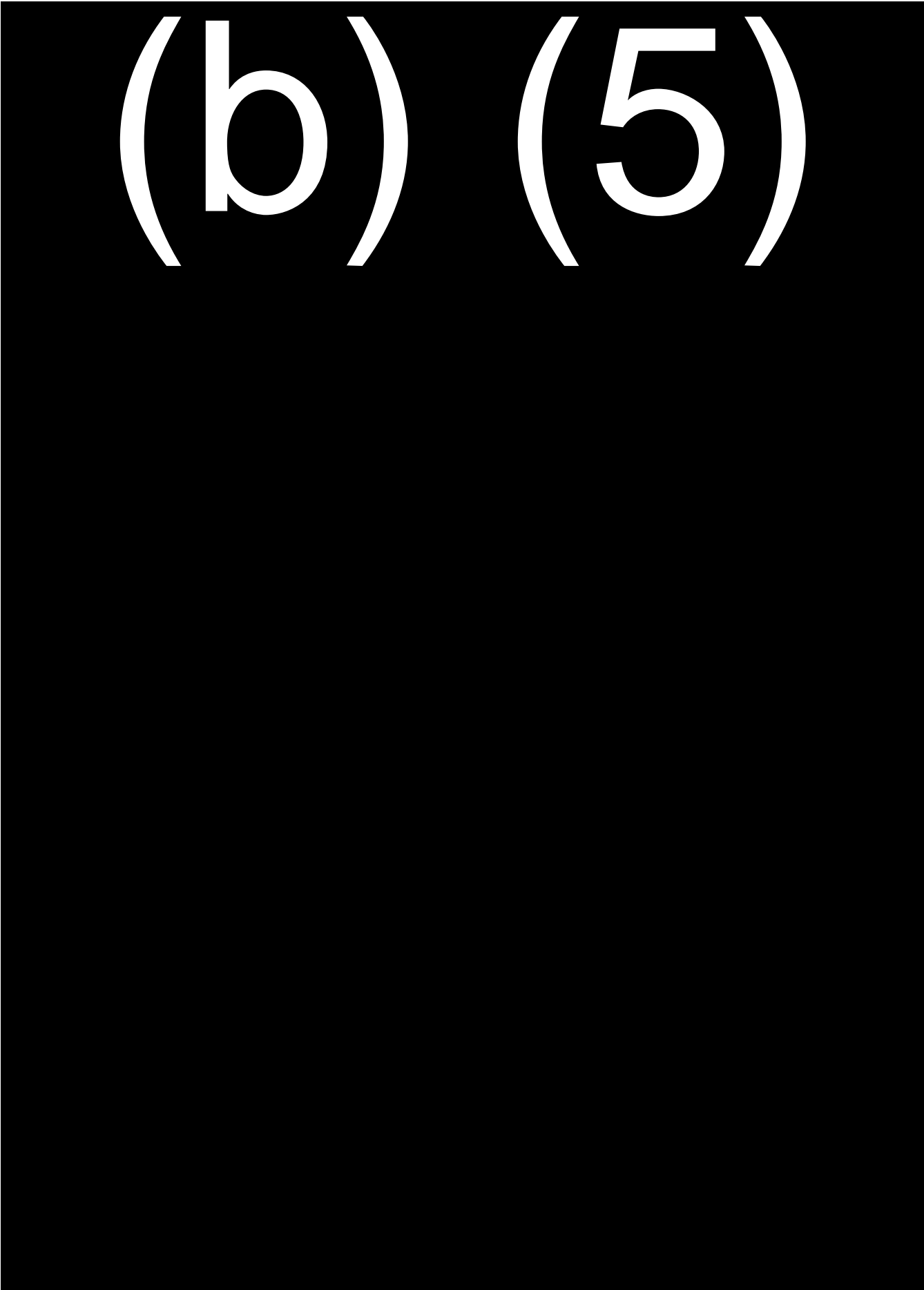
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(b) (5)



(b) (5)

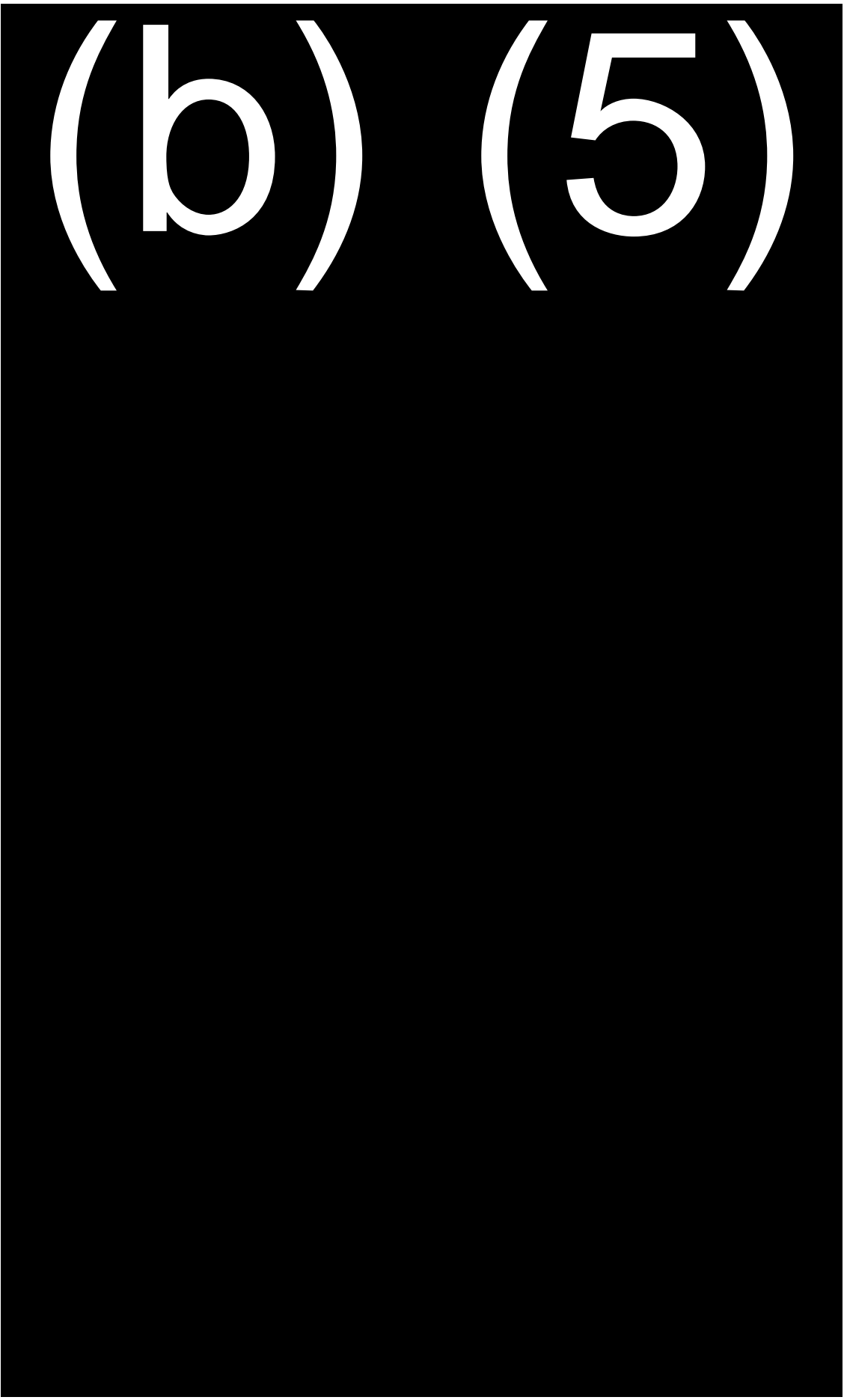
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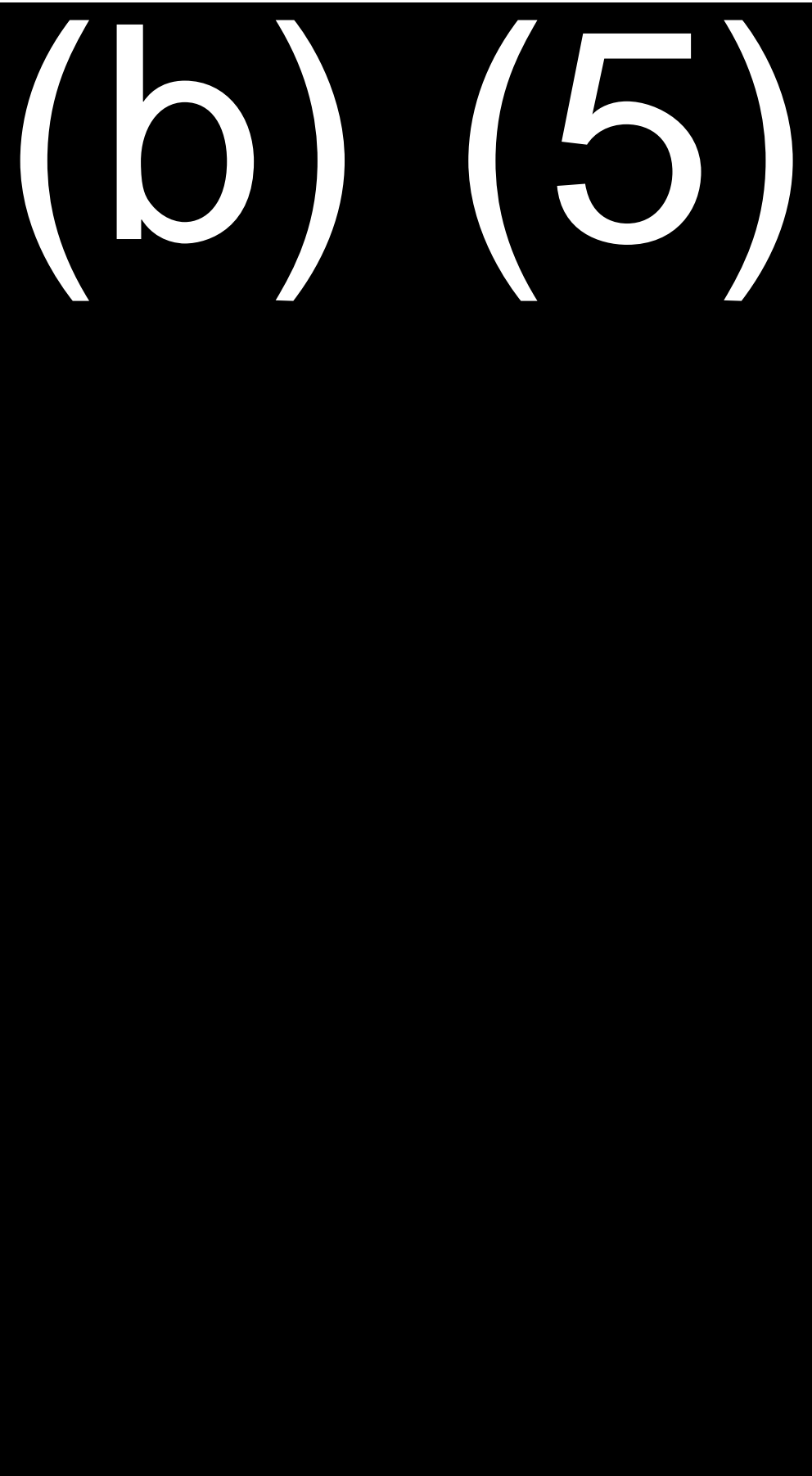
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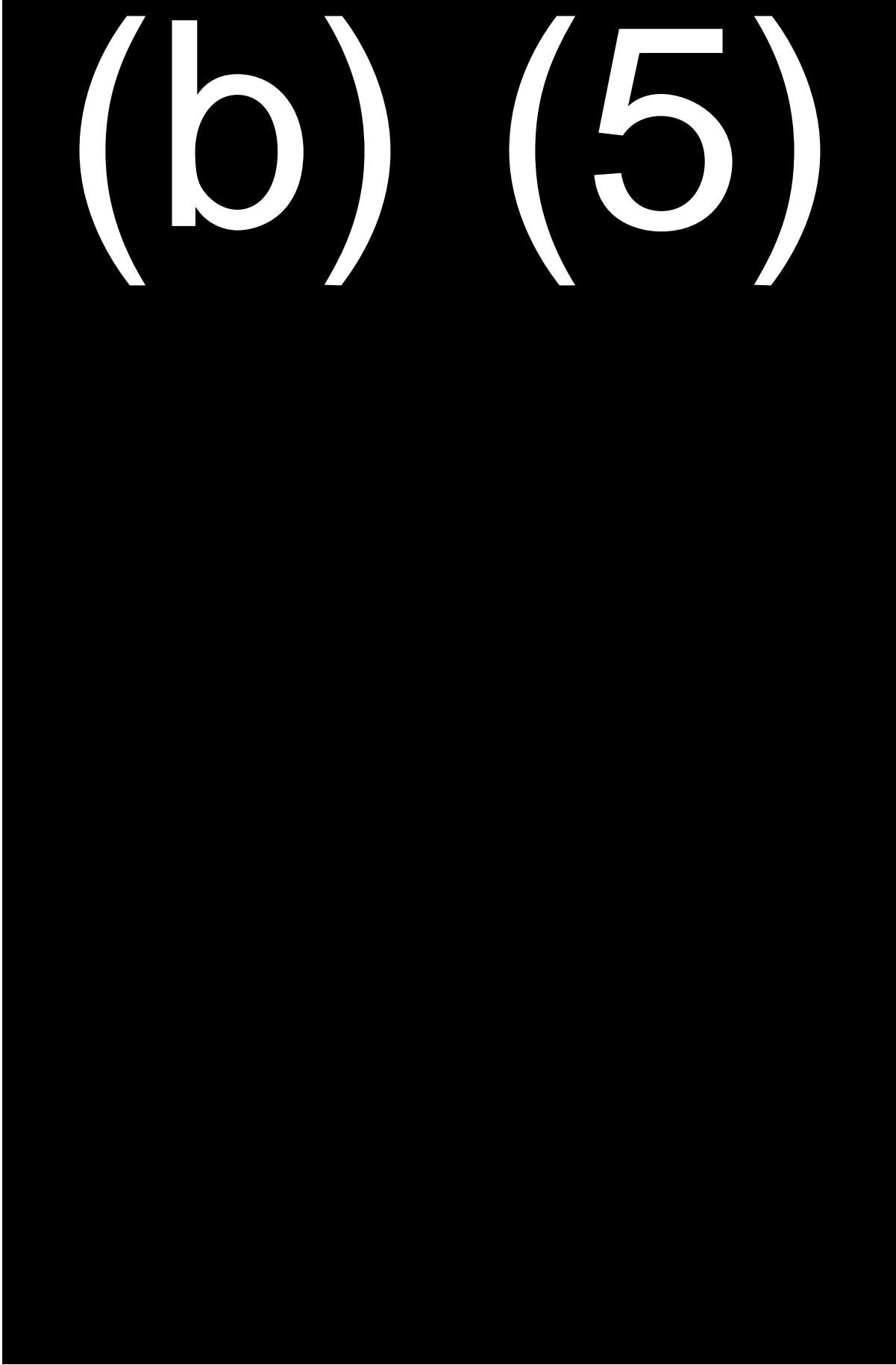
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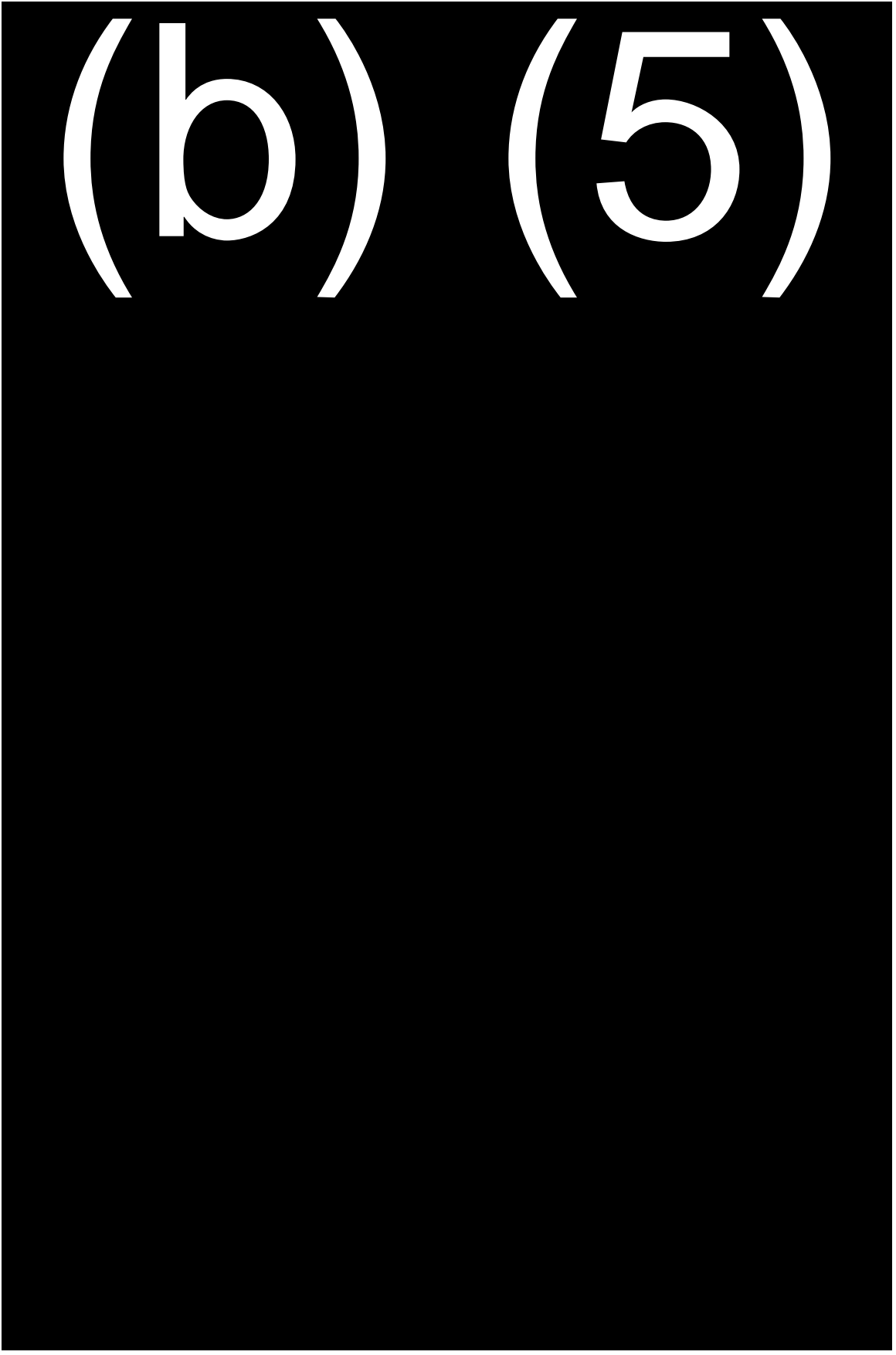
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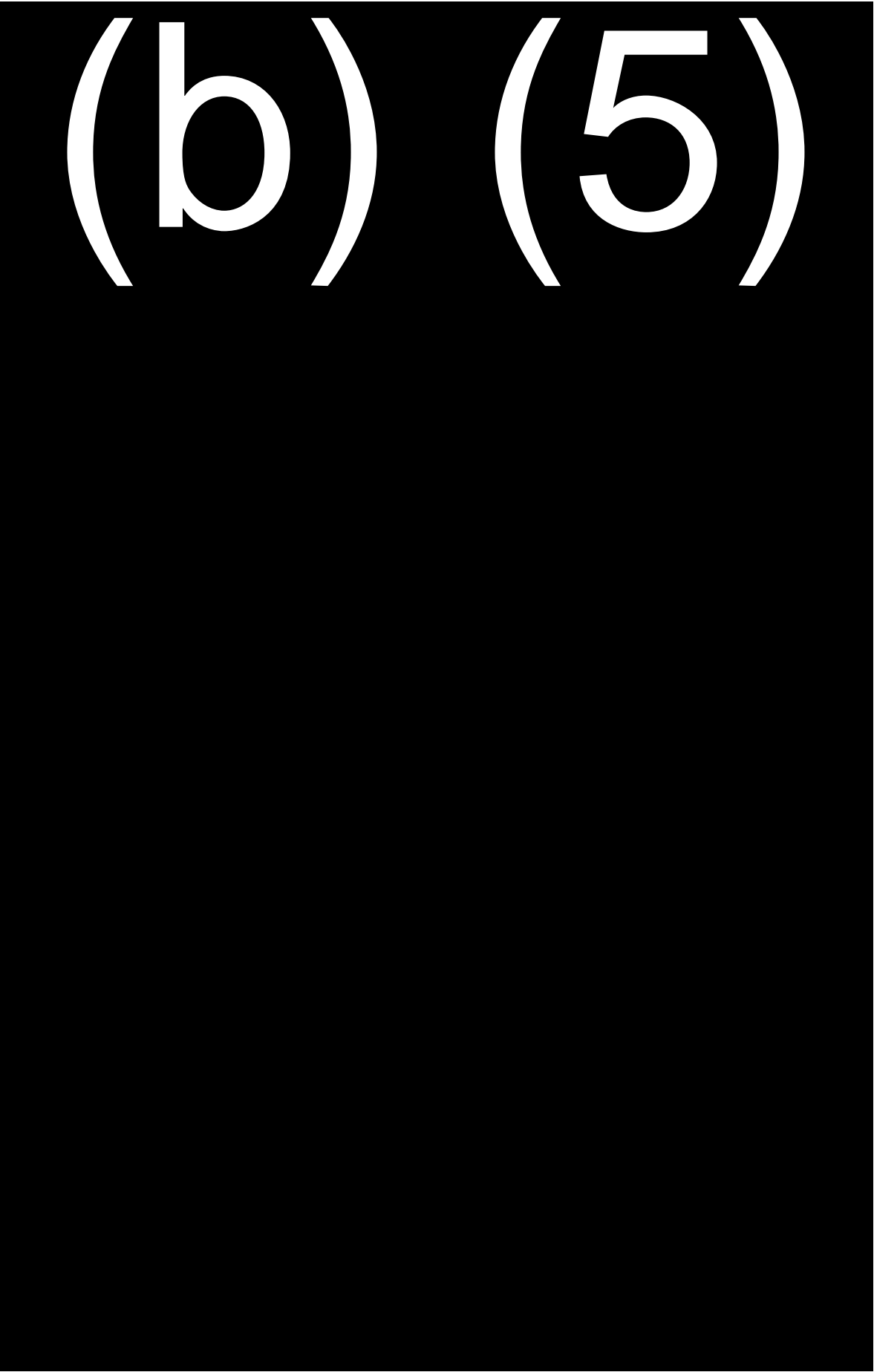
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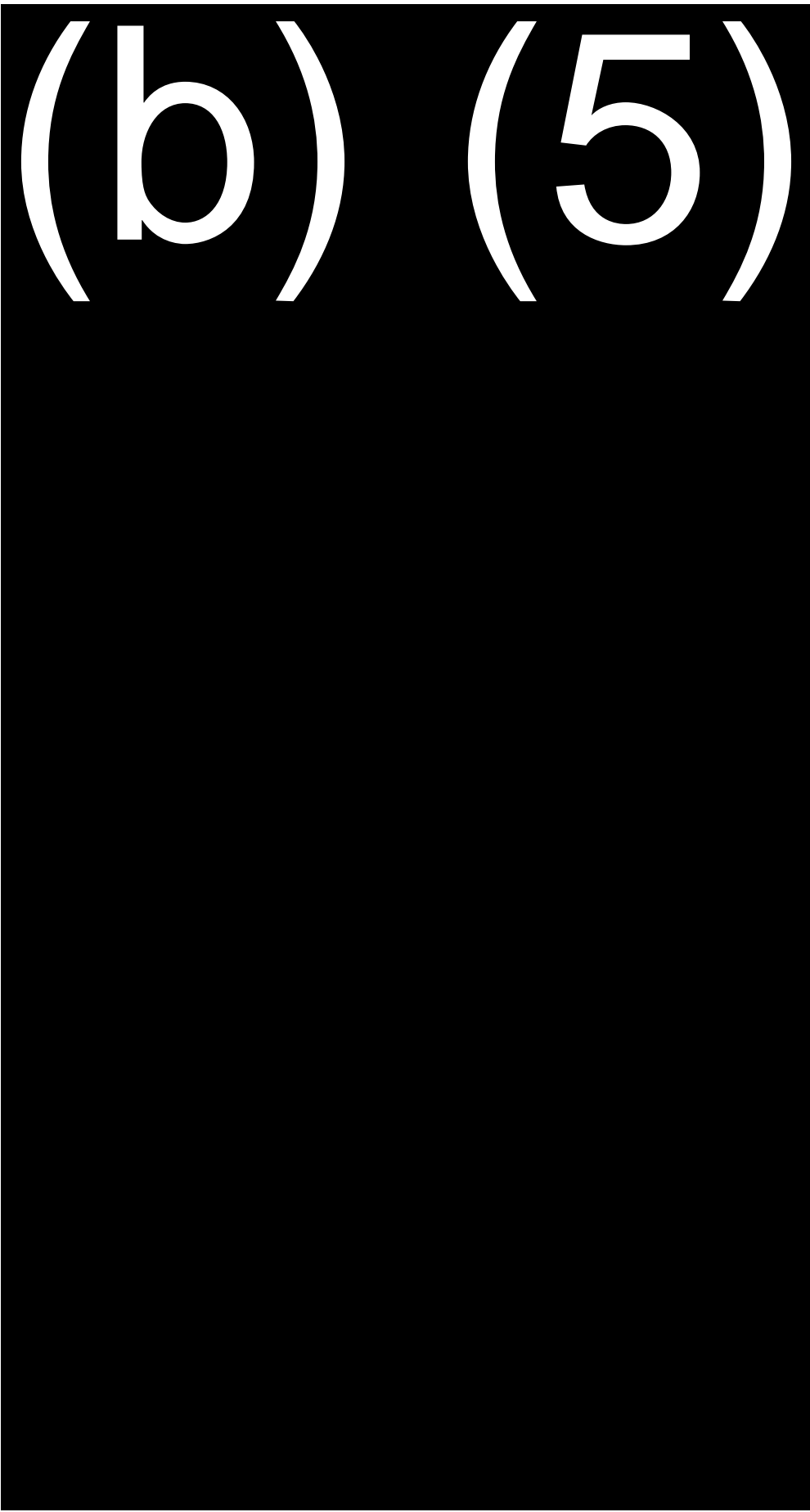
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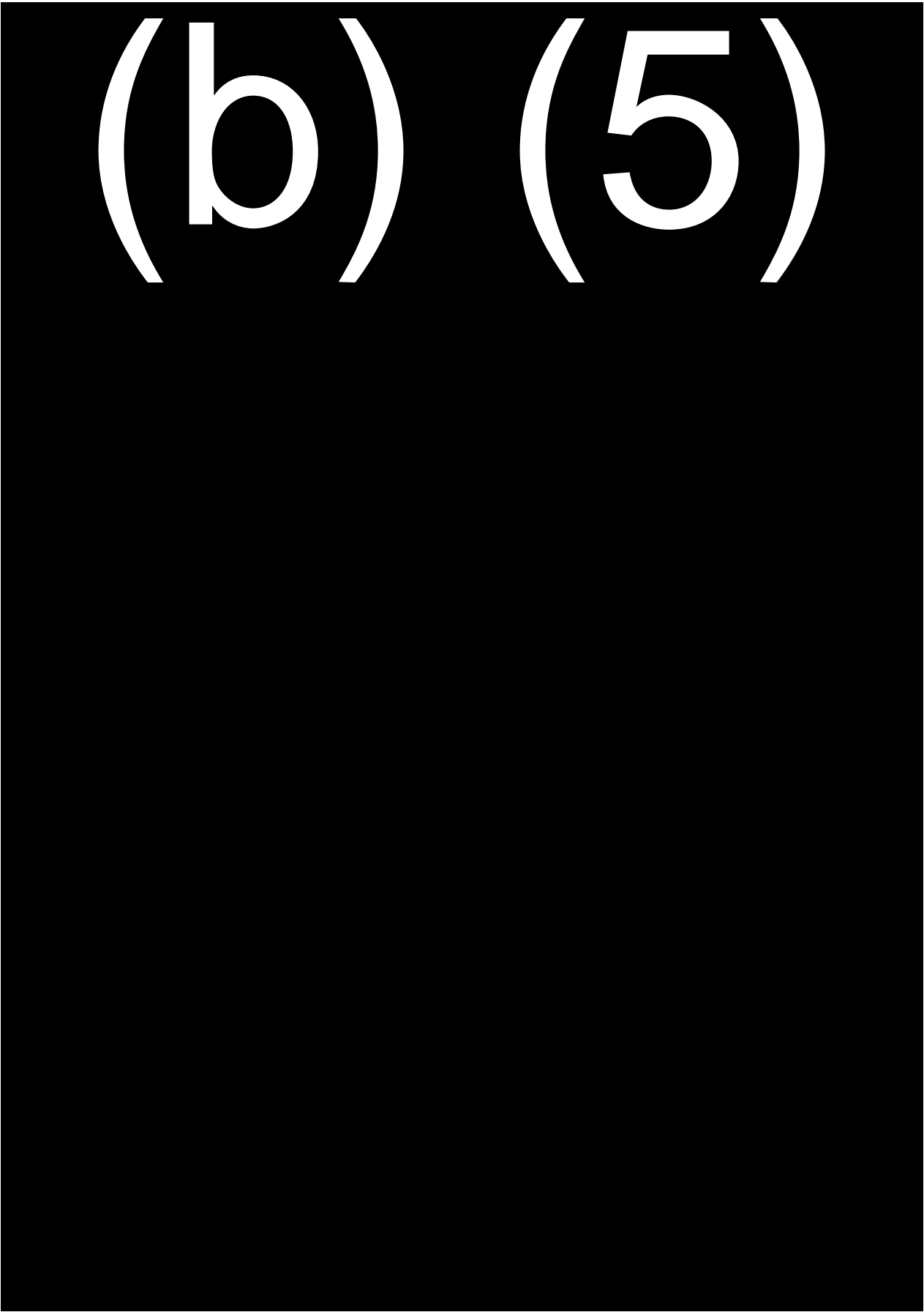
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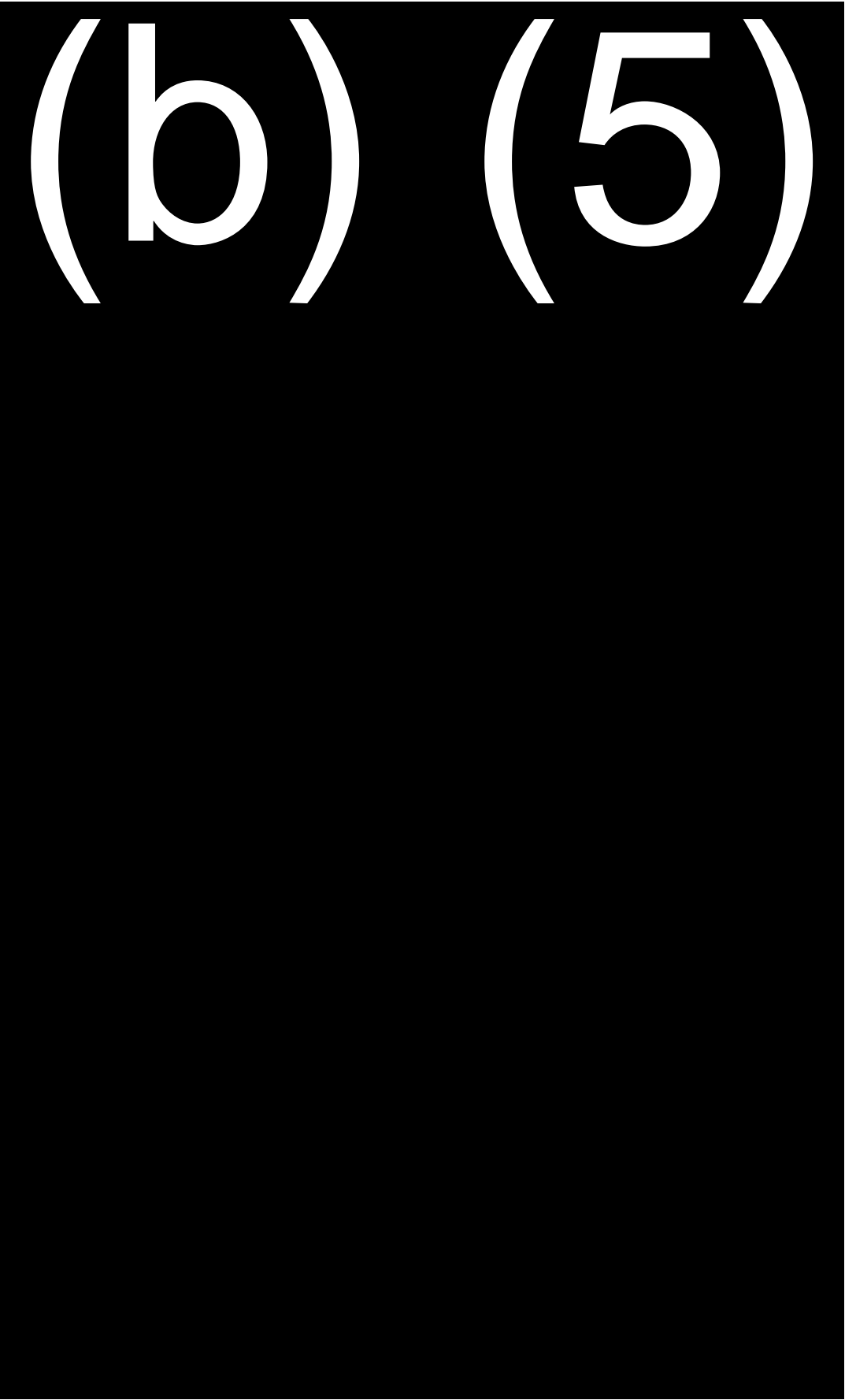
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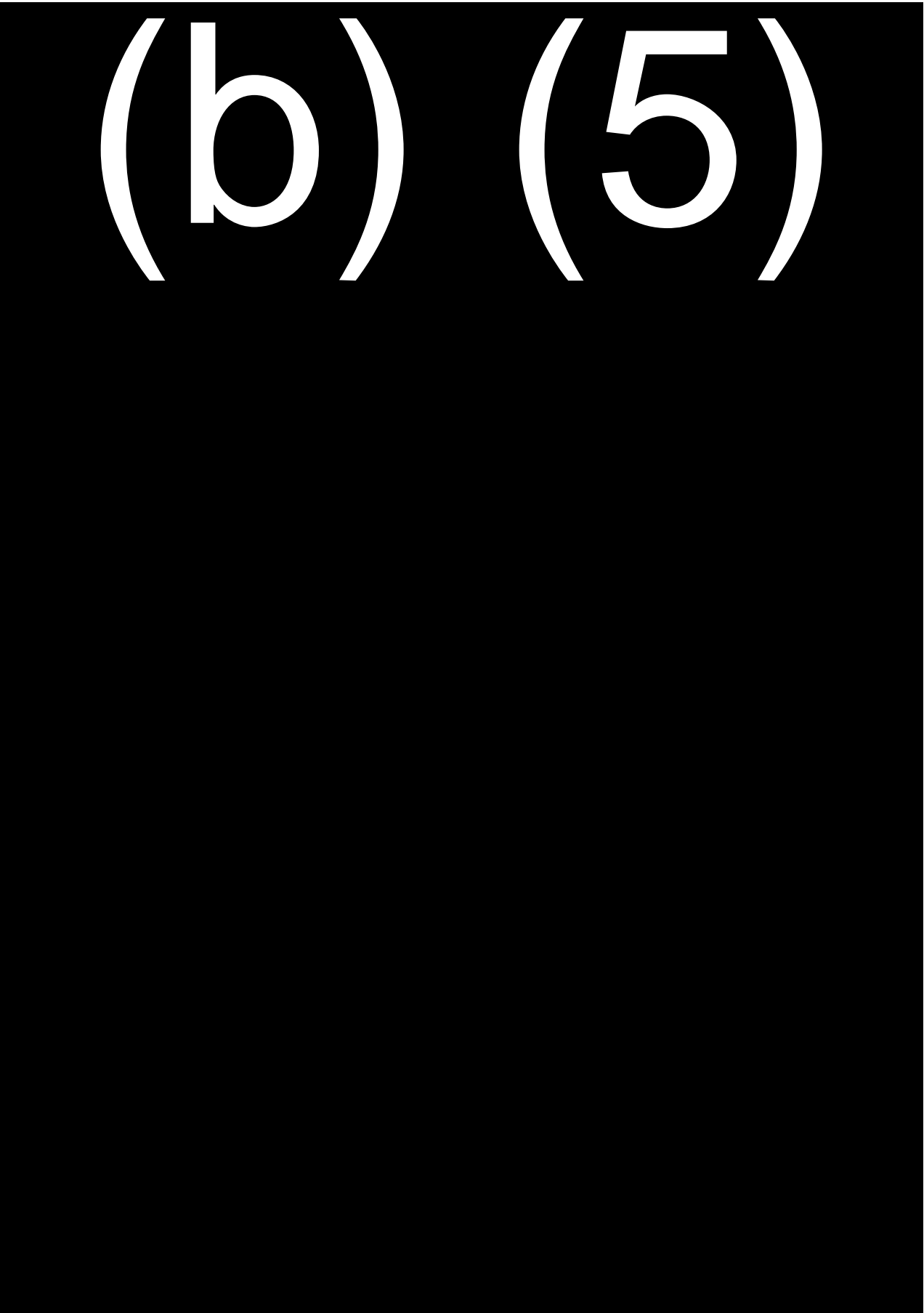
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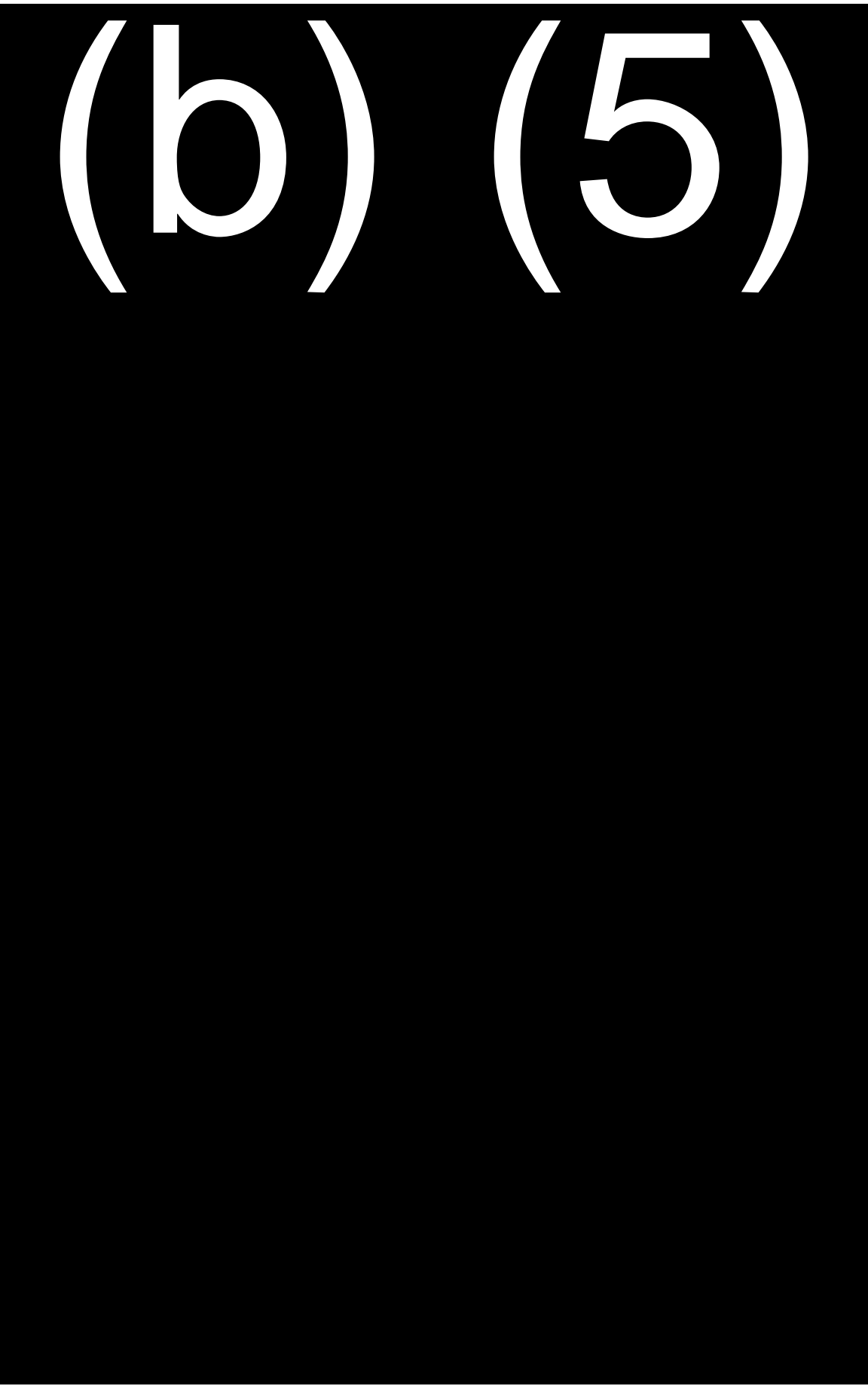


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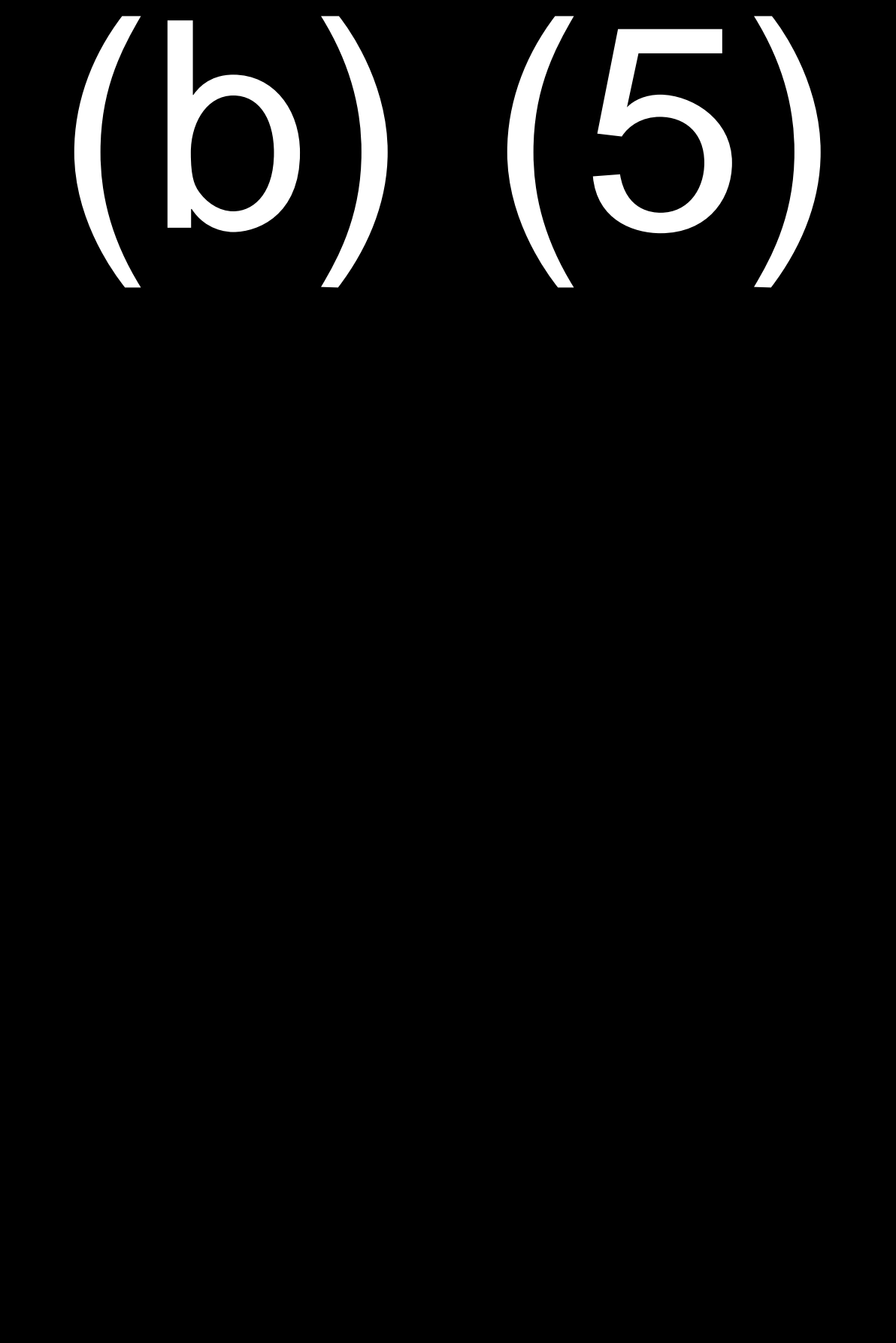


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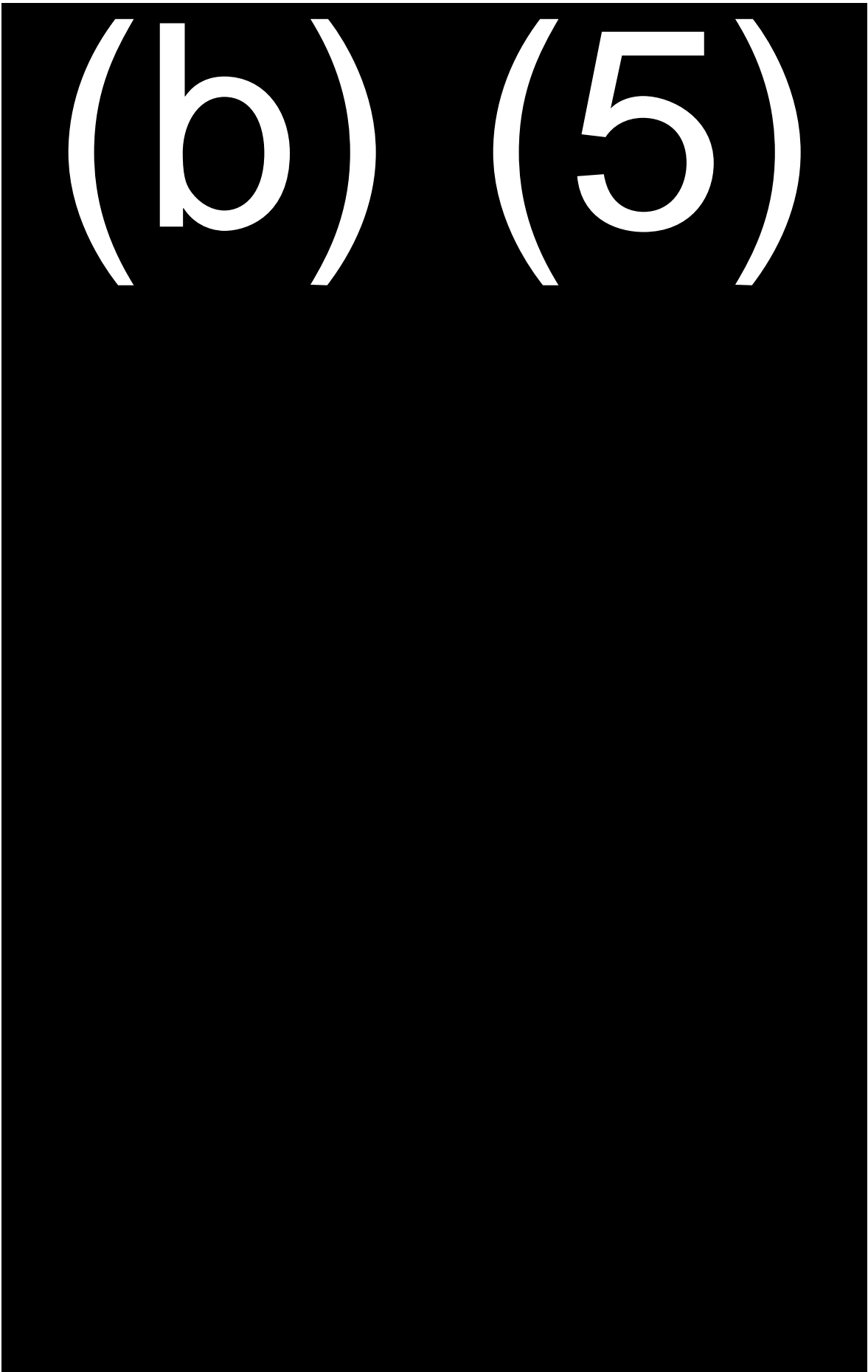


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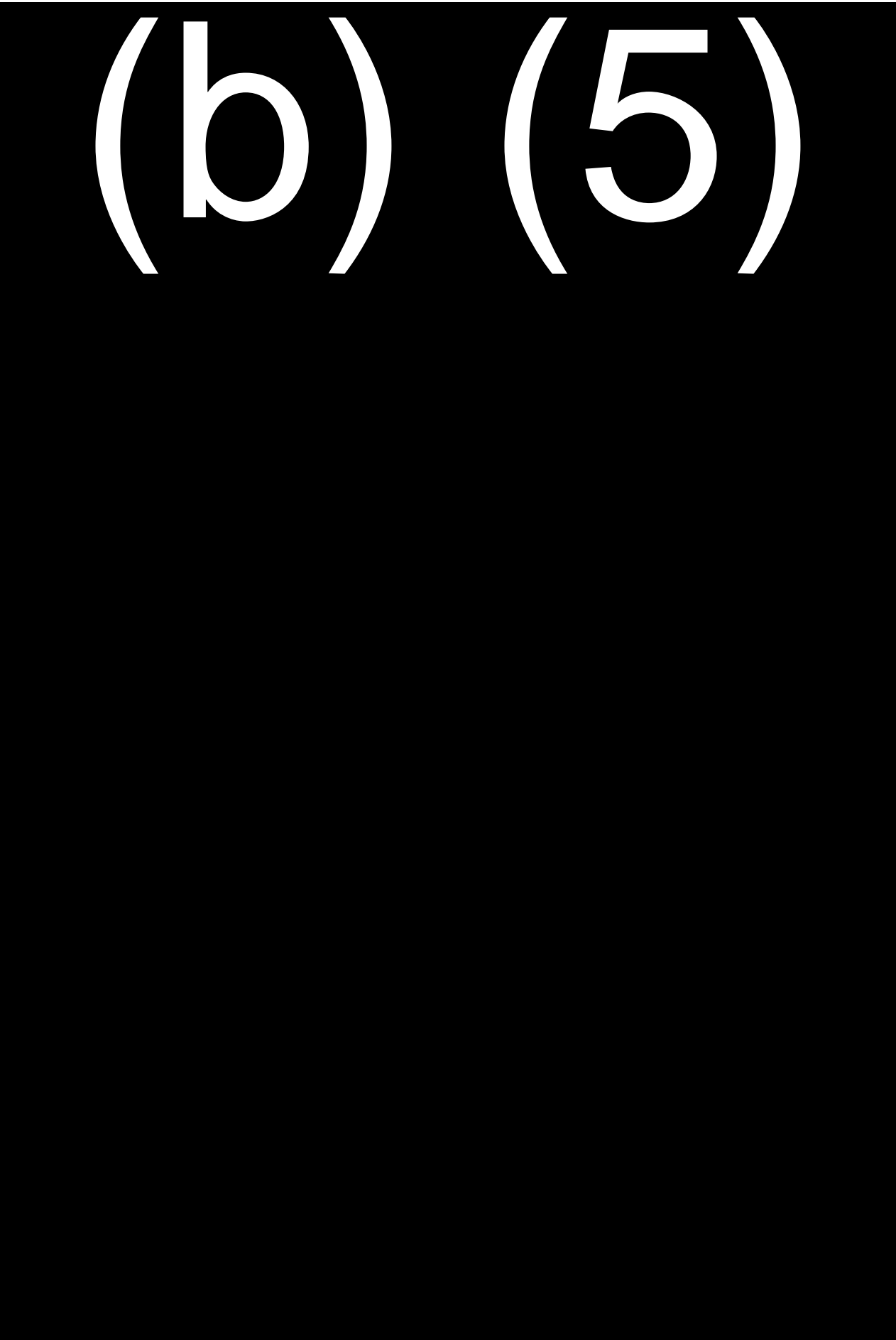
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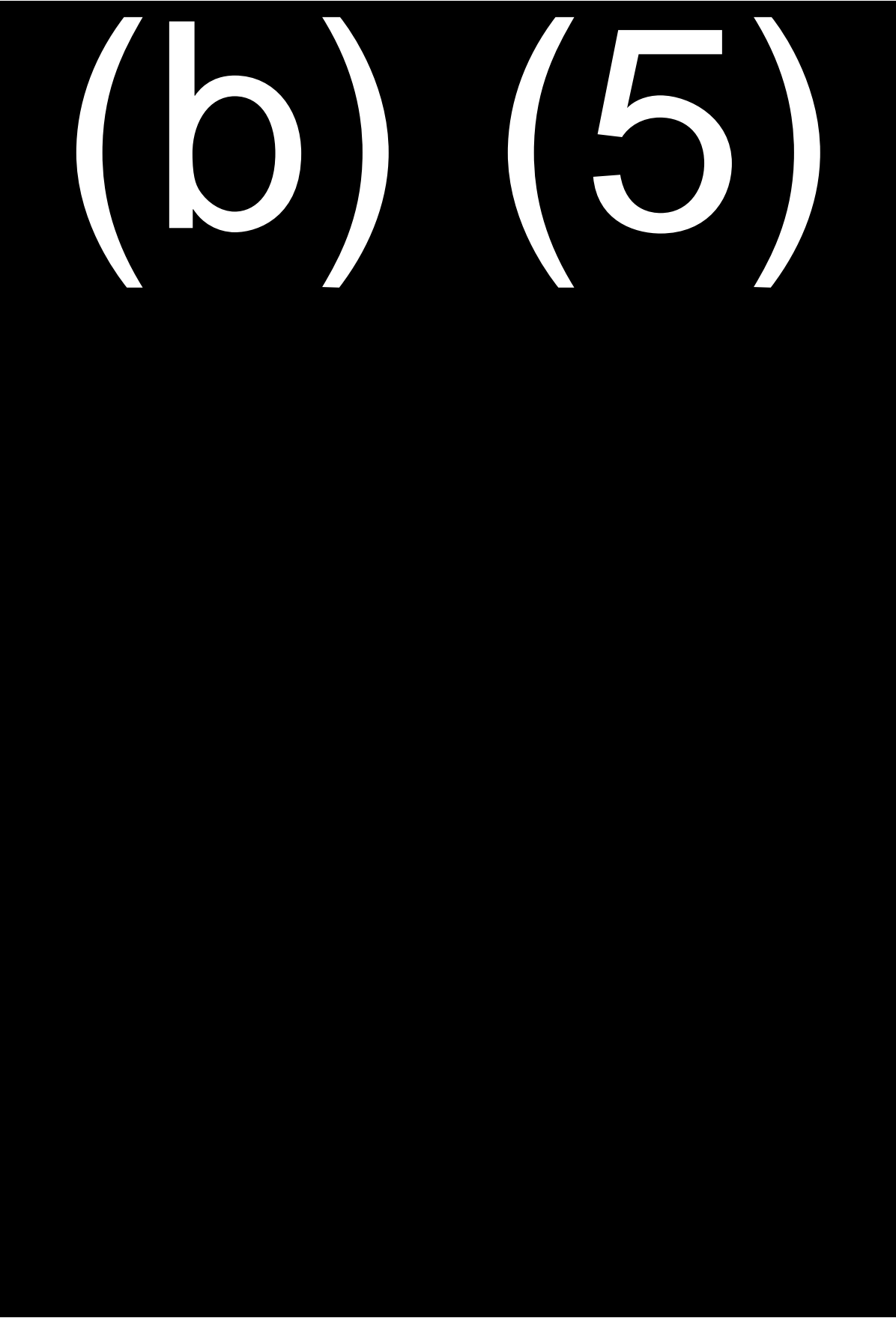
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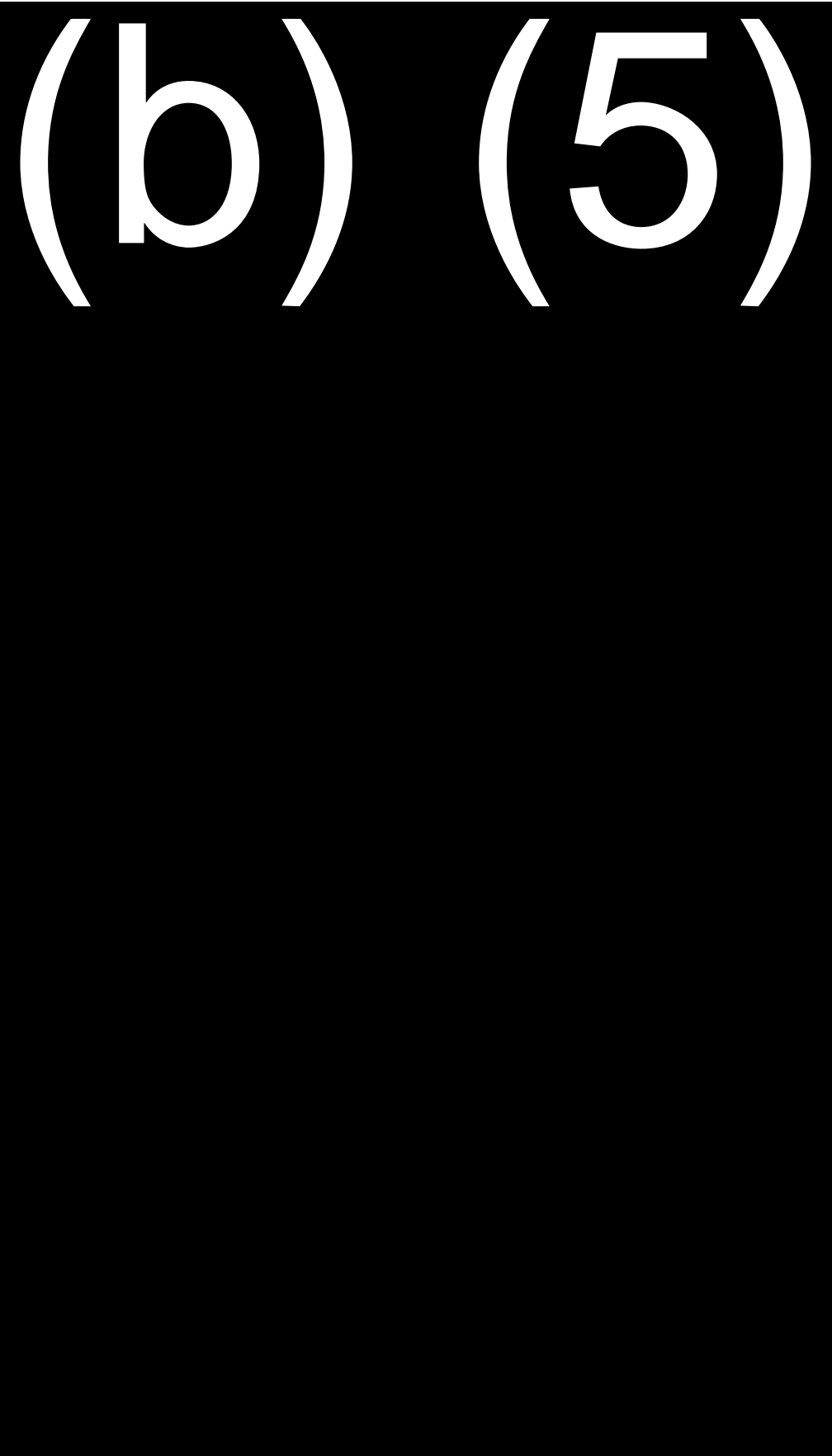


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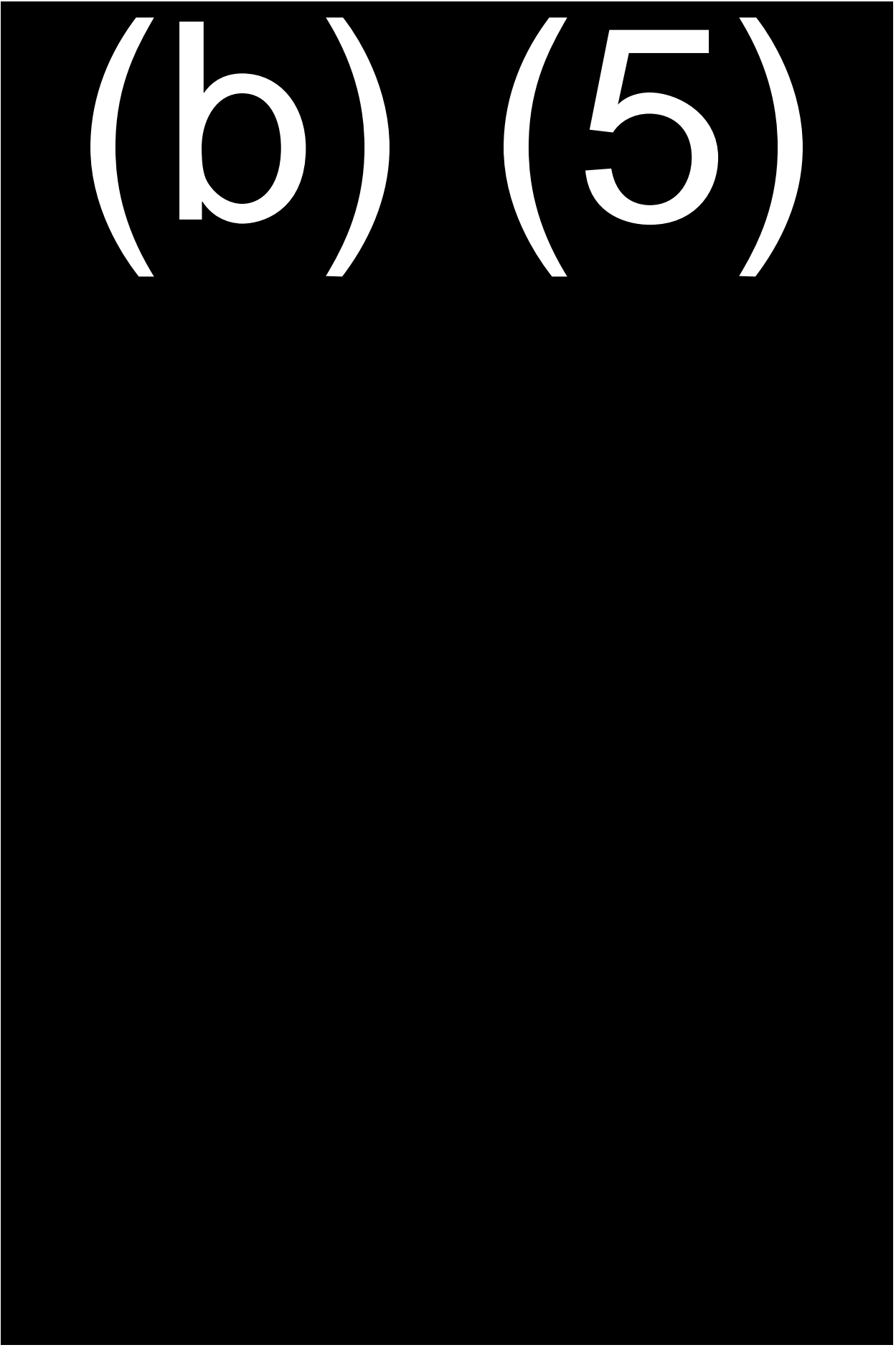
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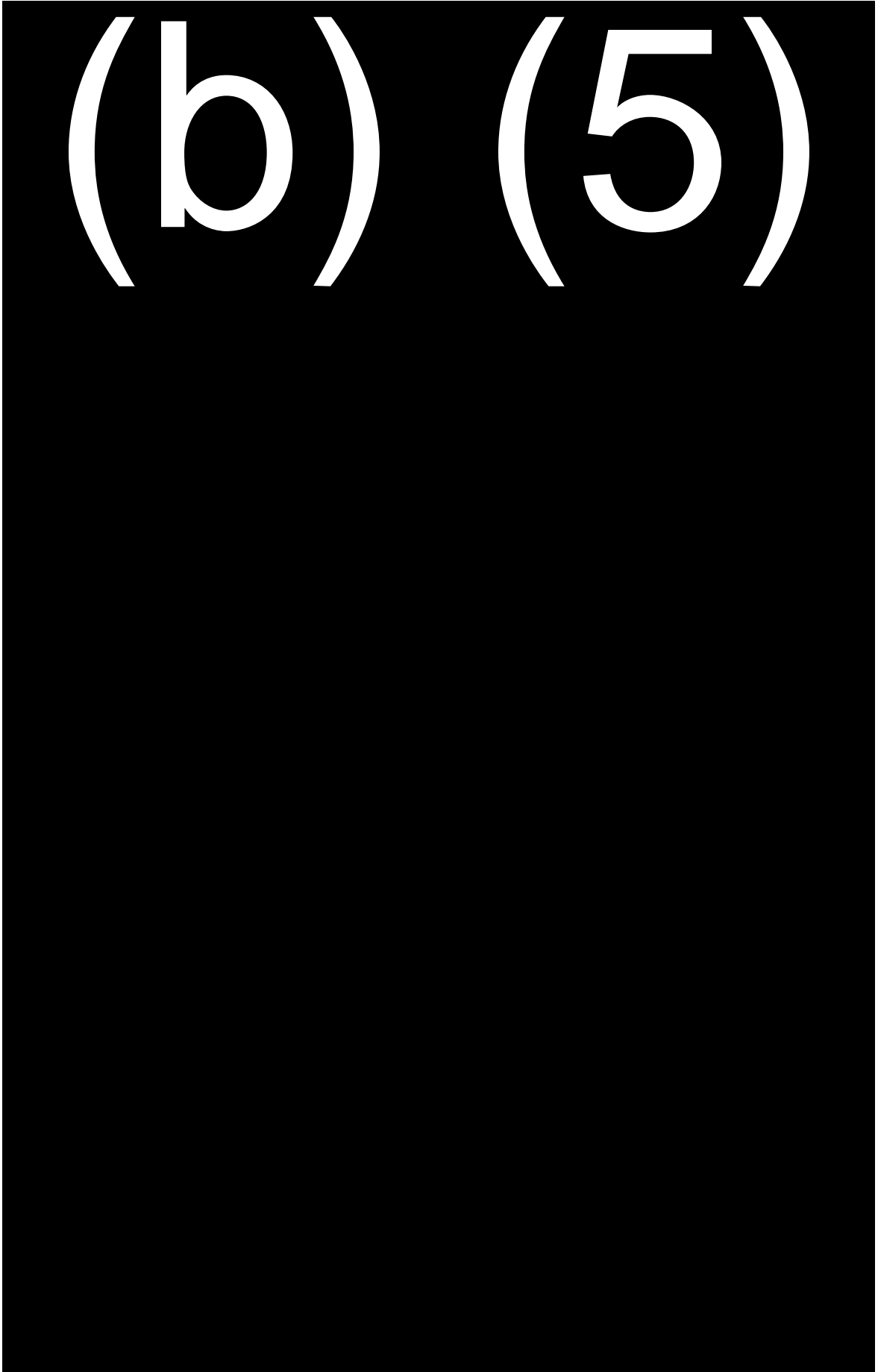
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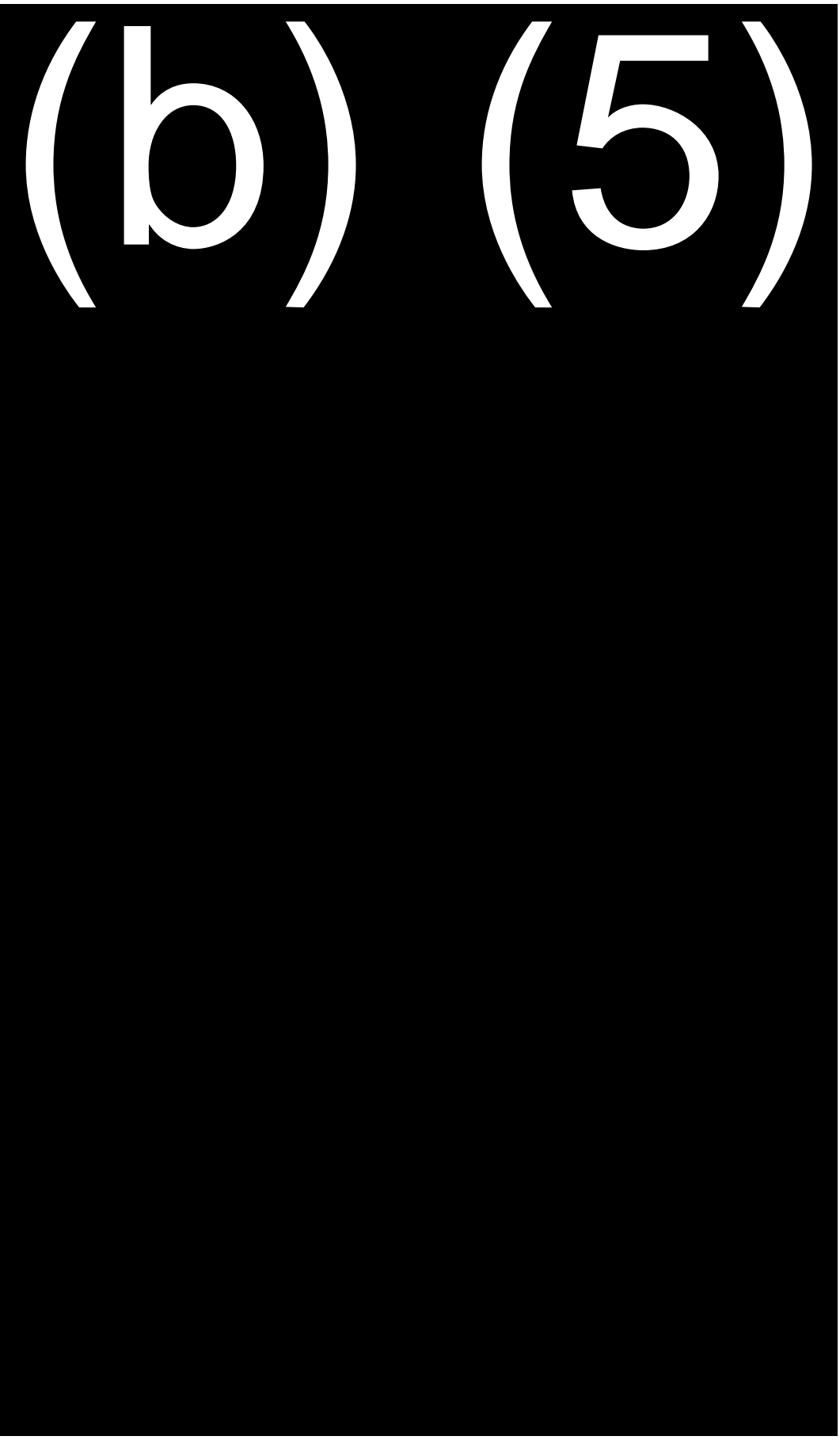
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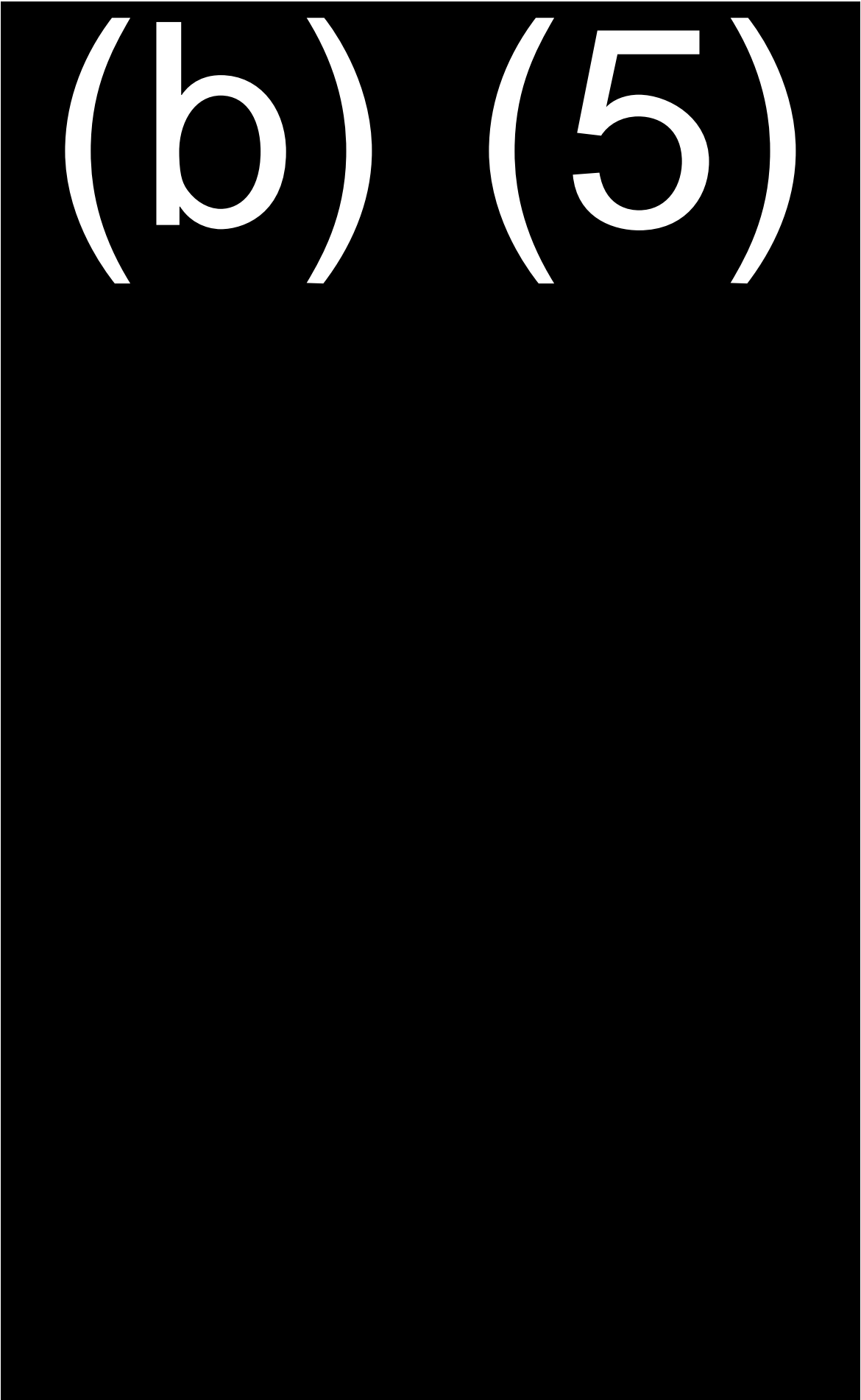


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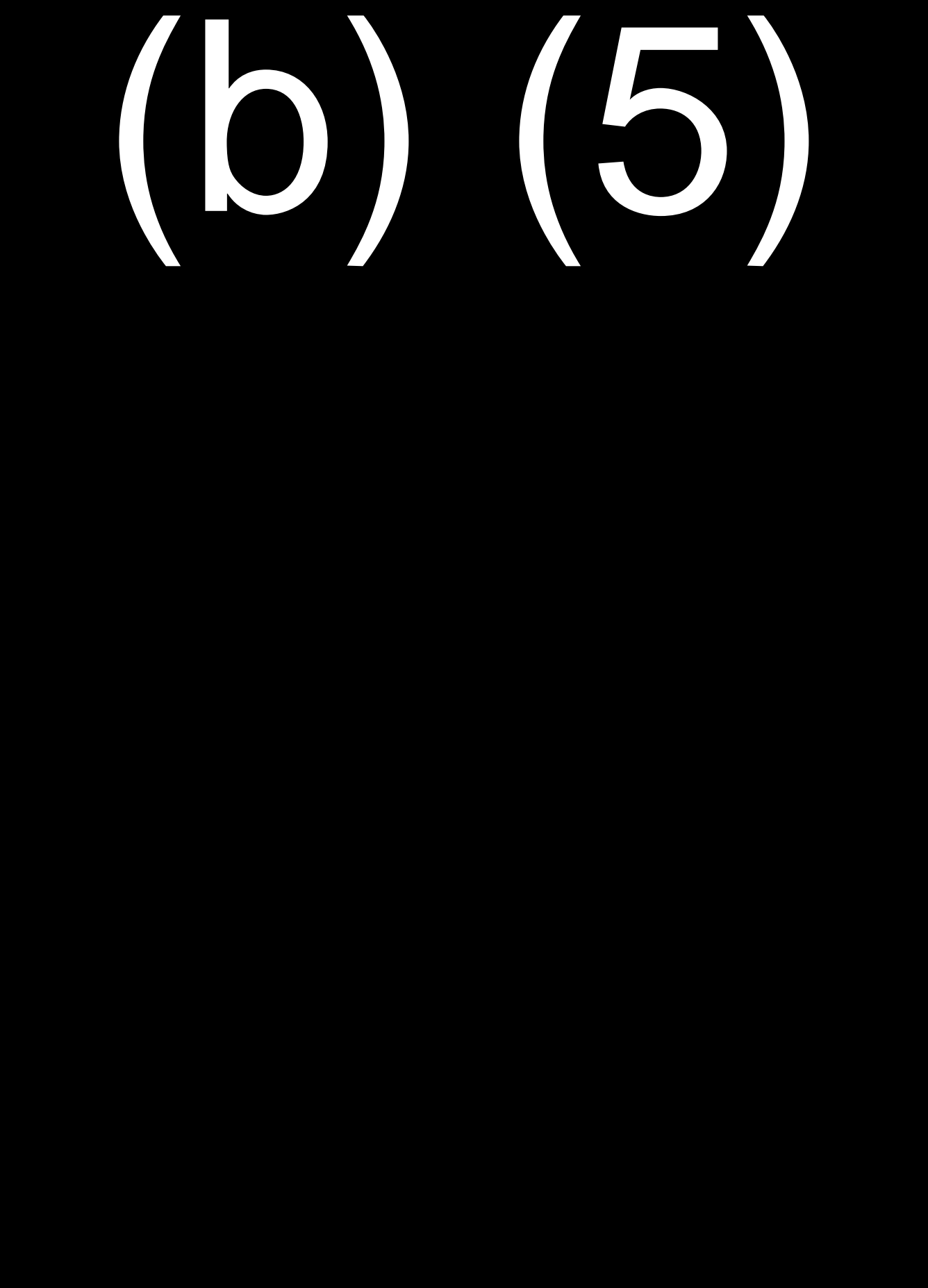


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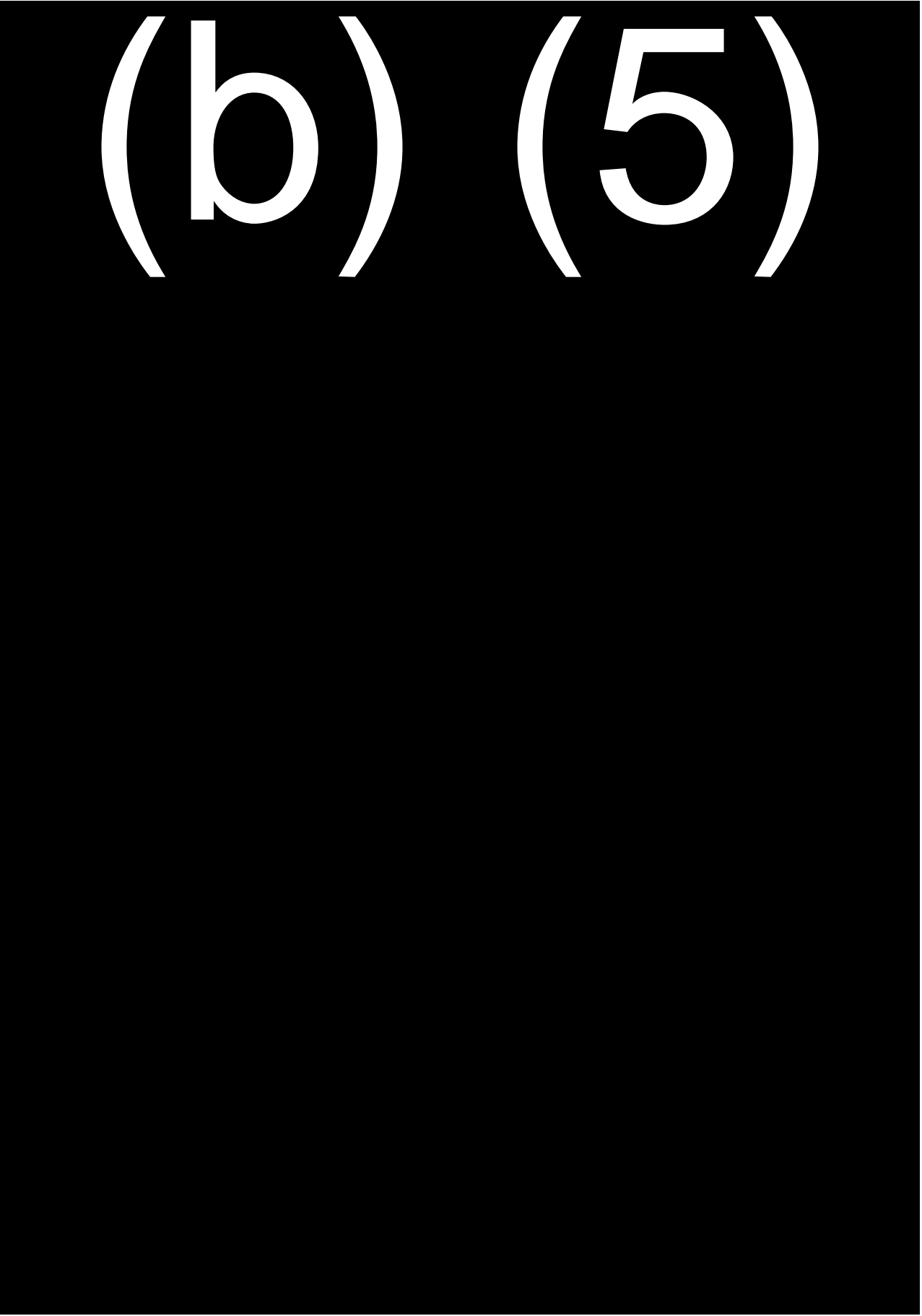
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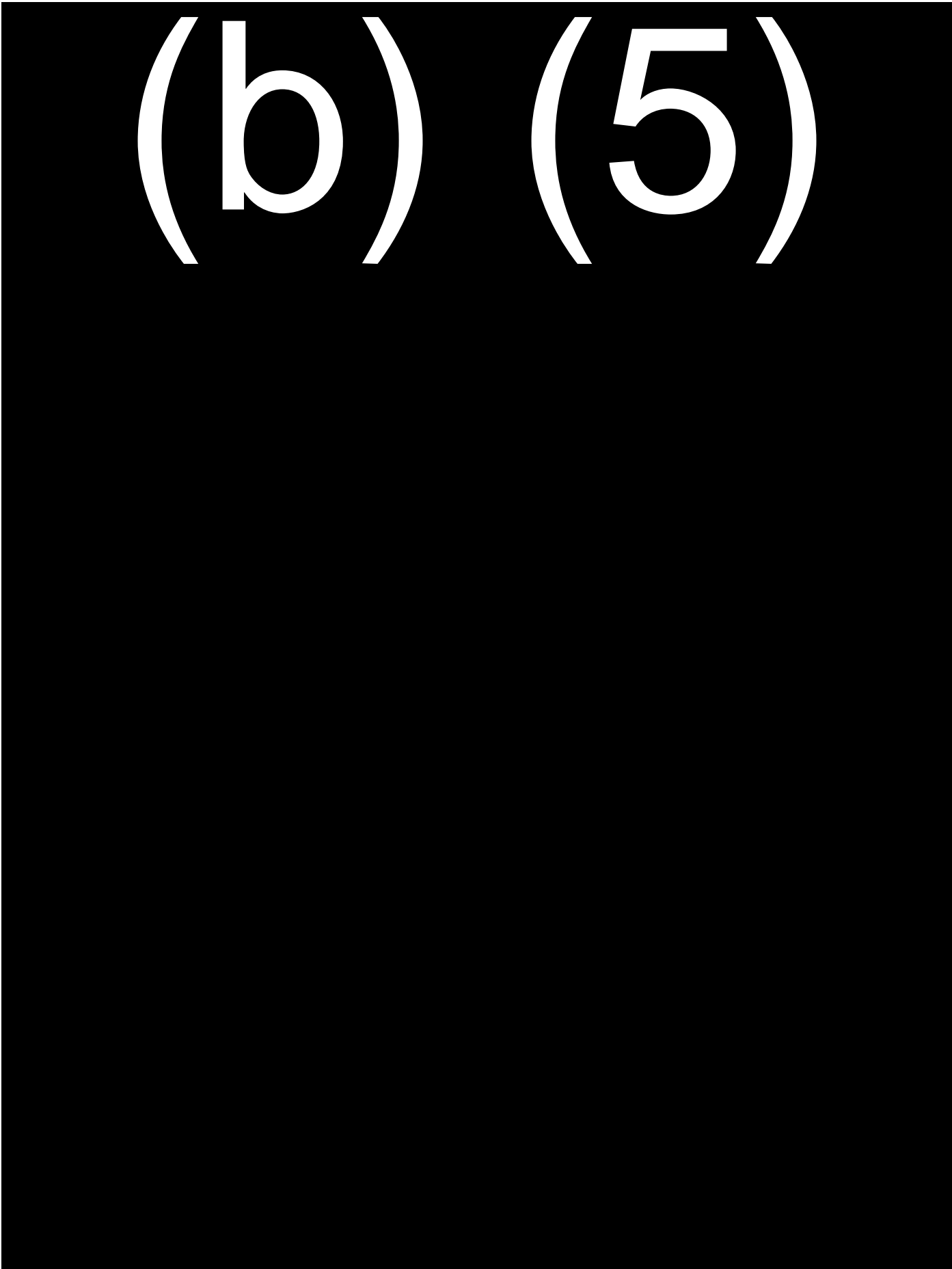


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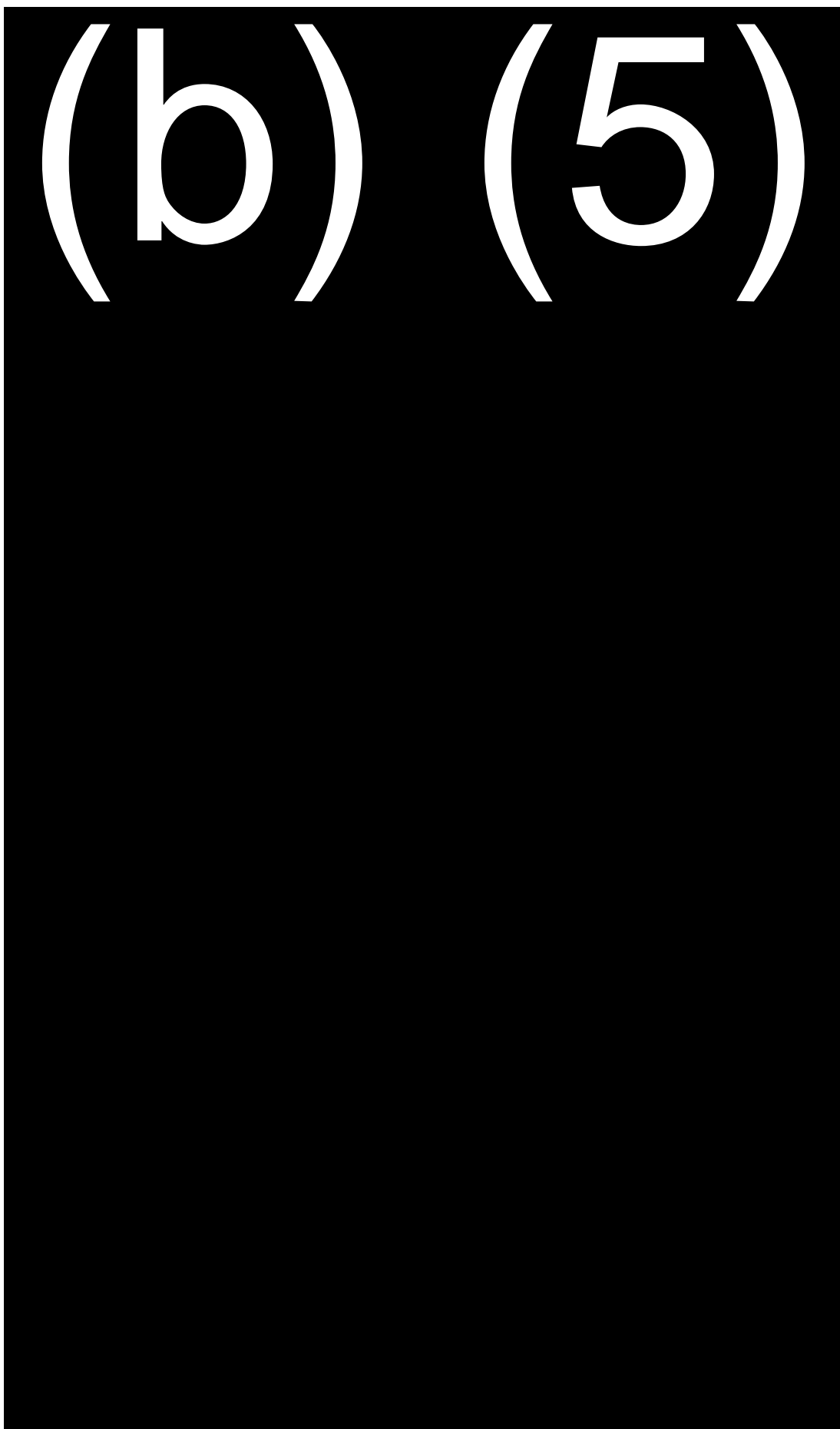
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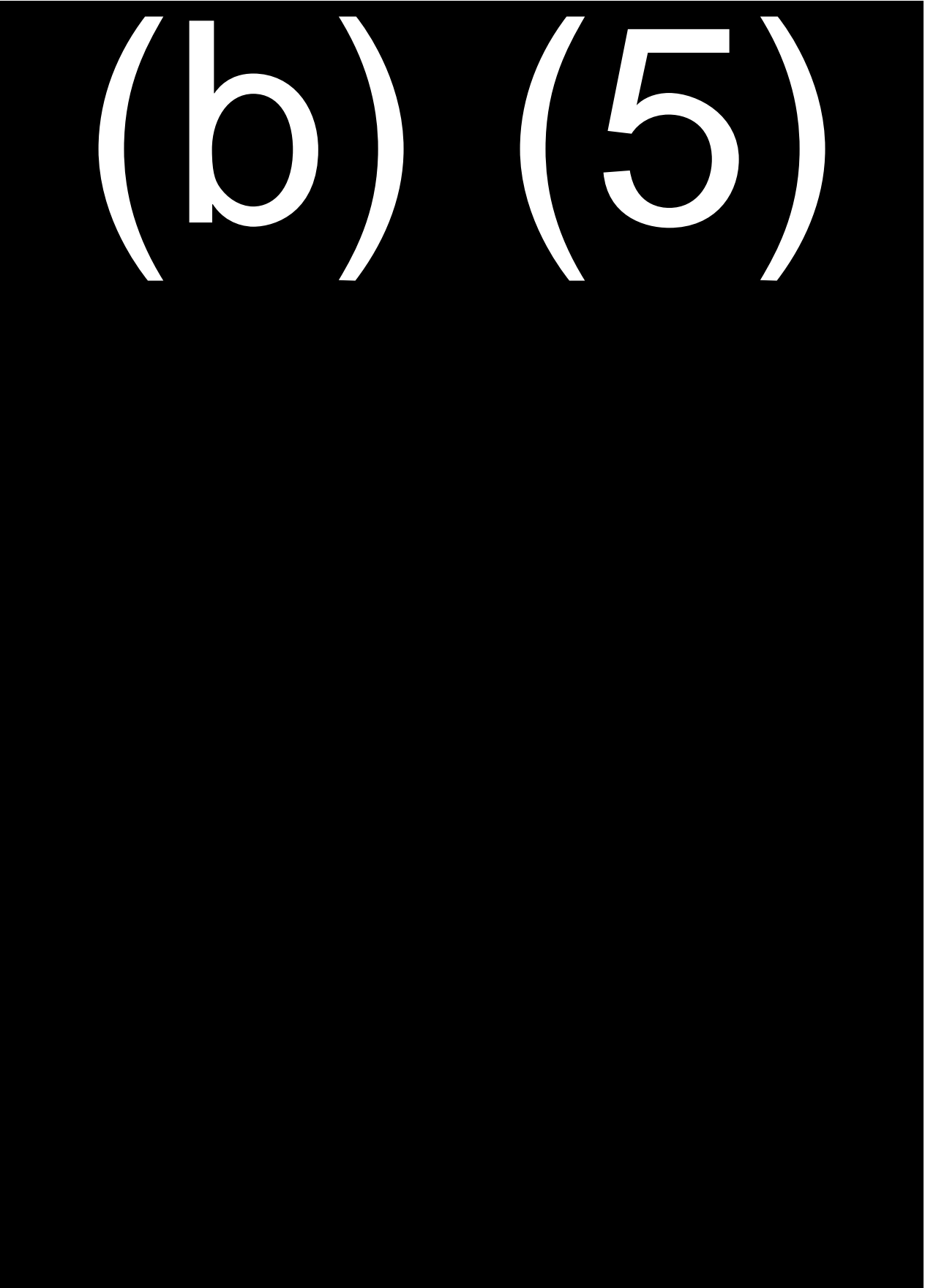
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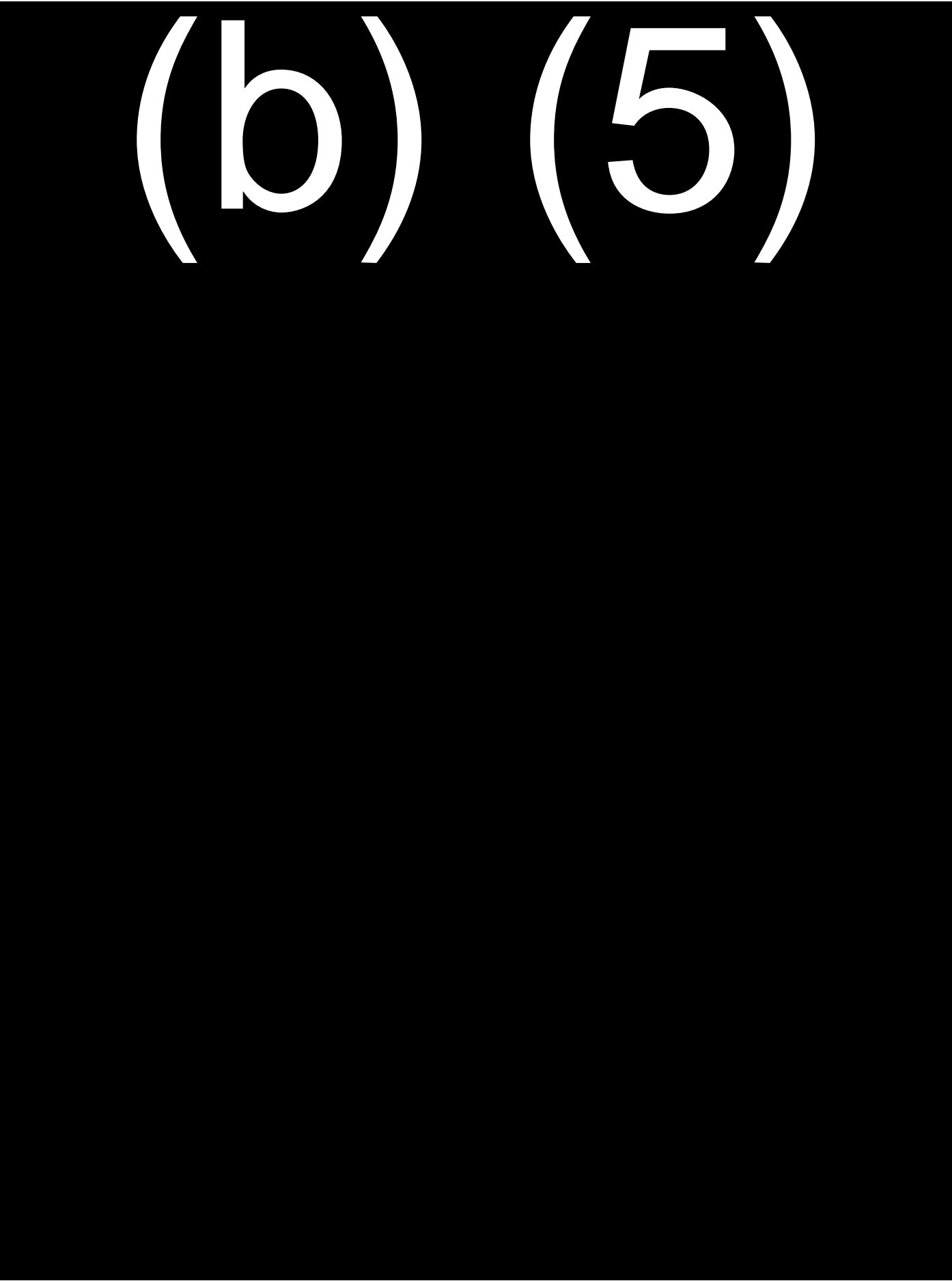
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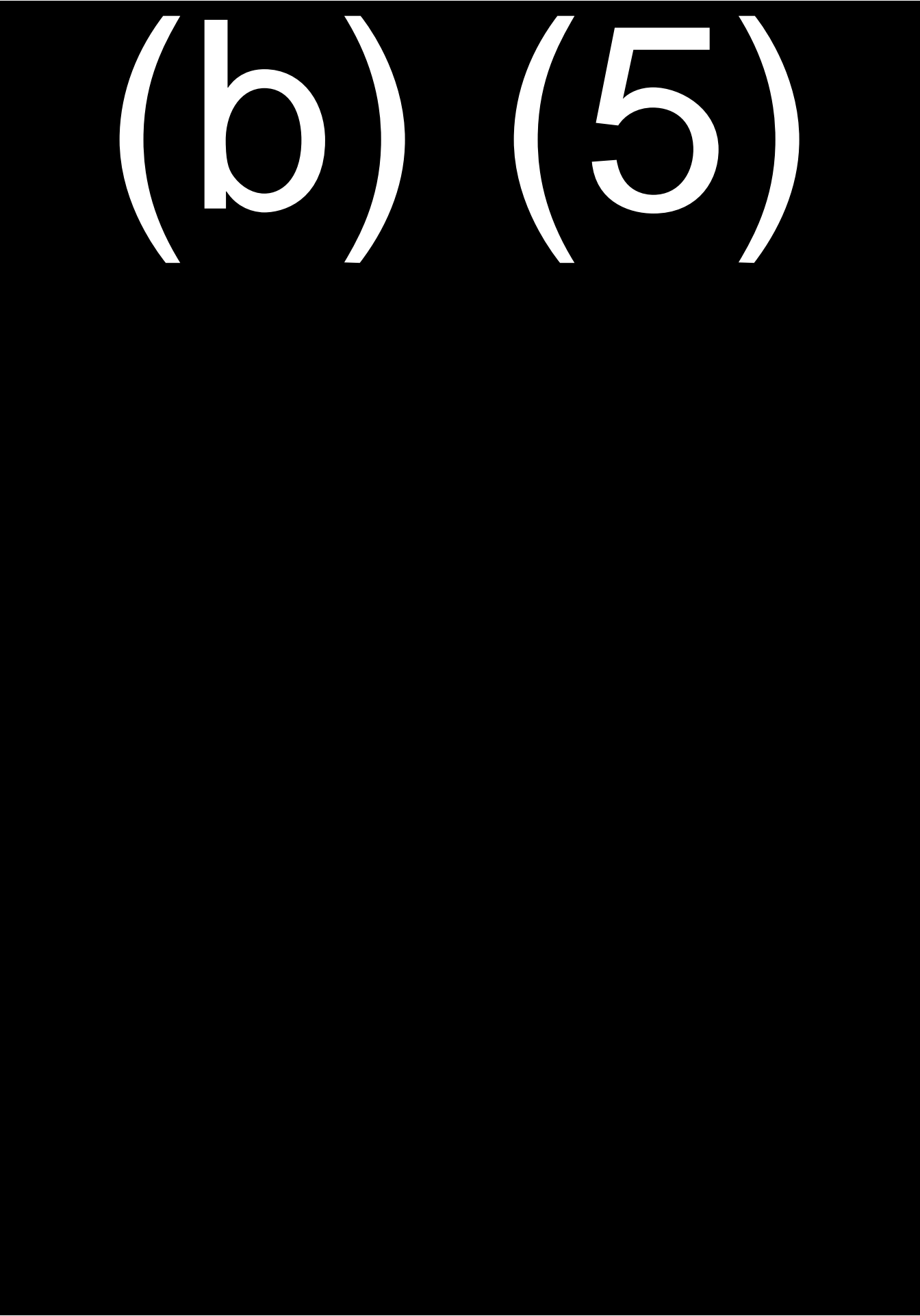


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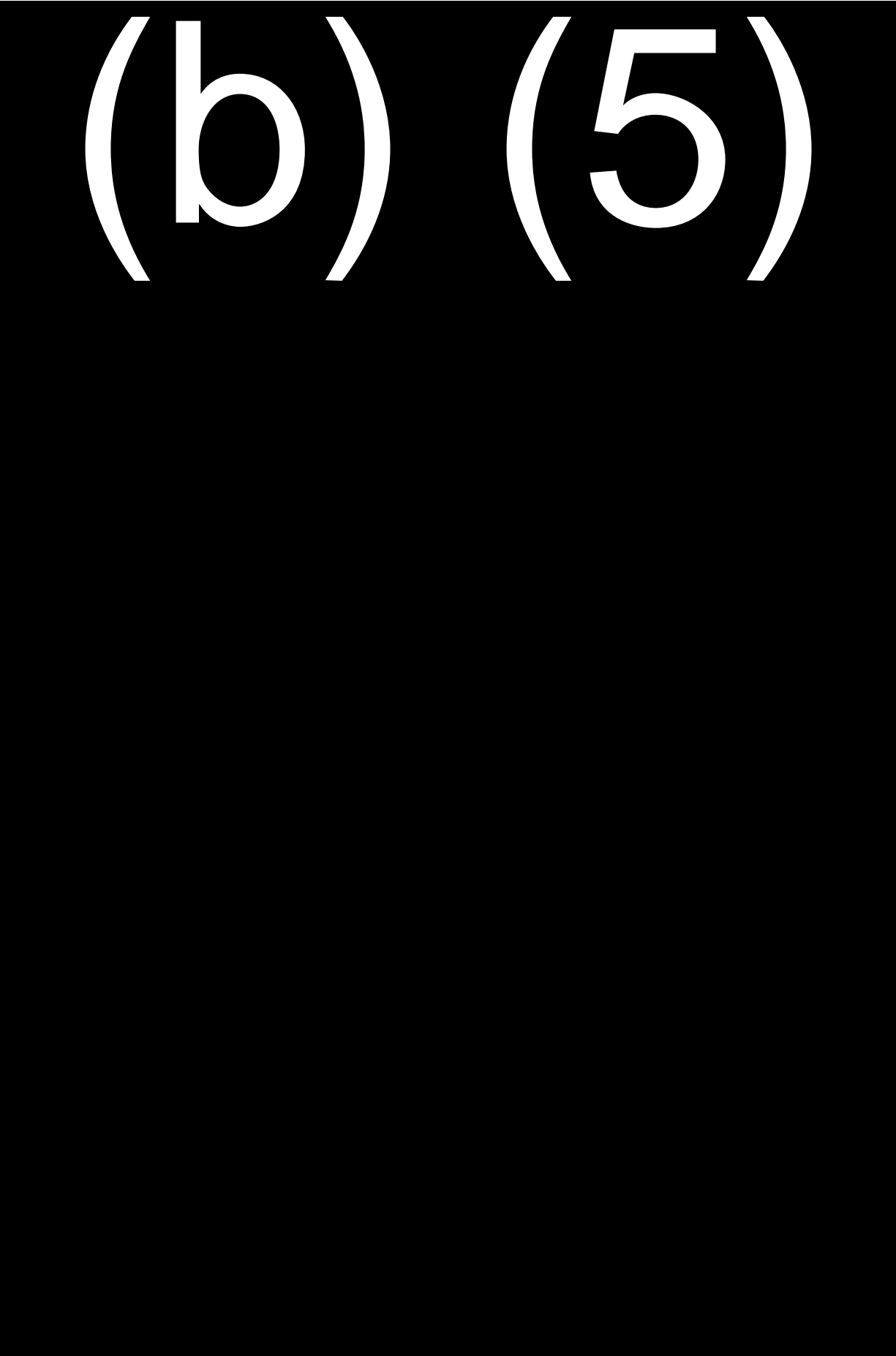
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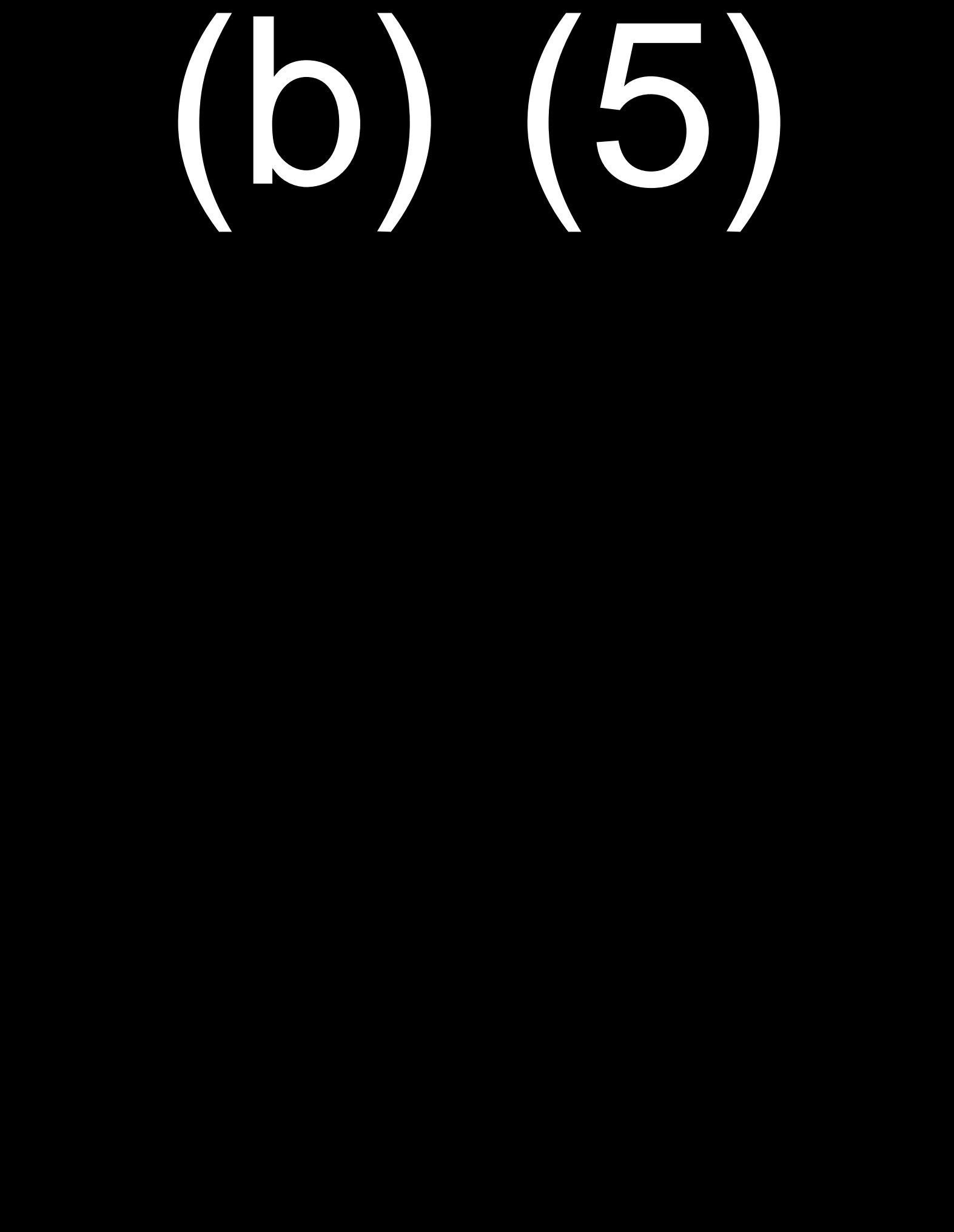


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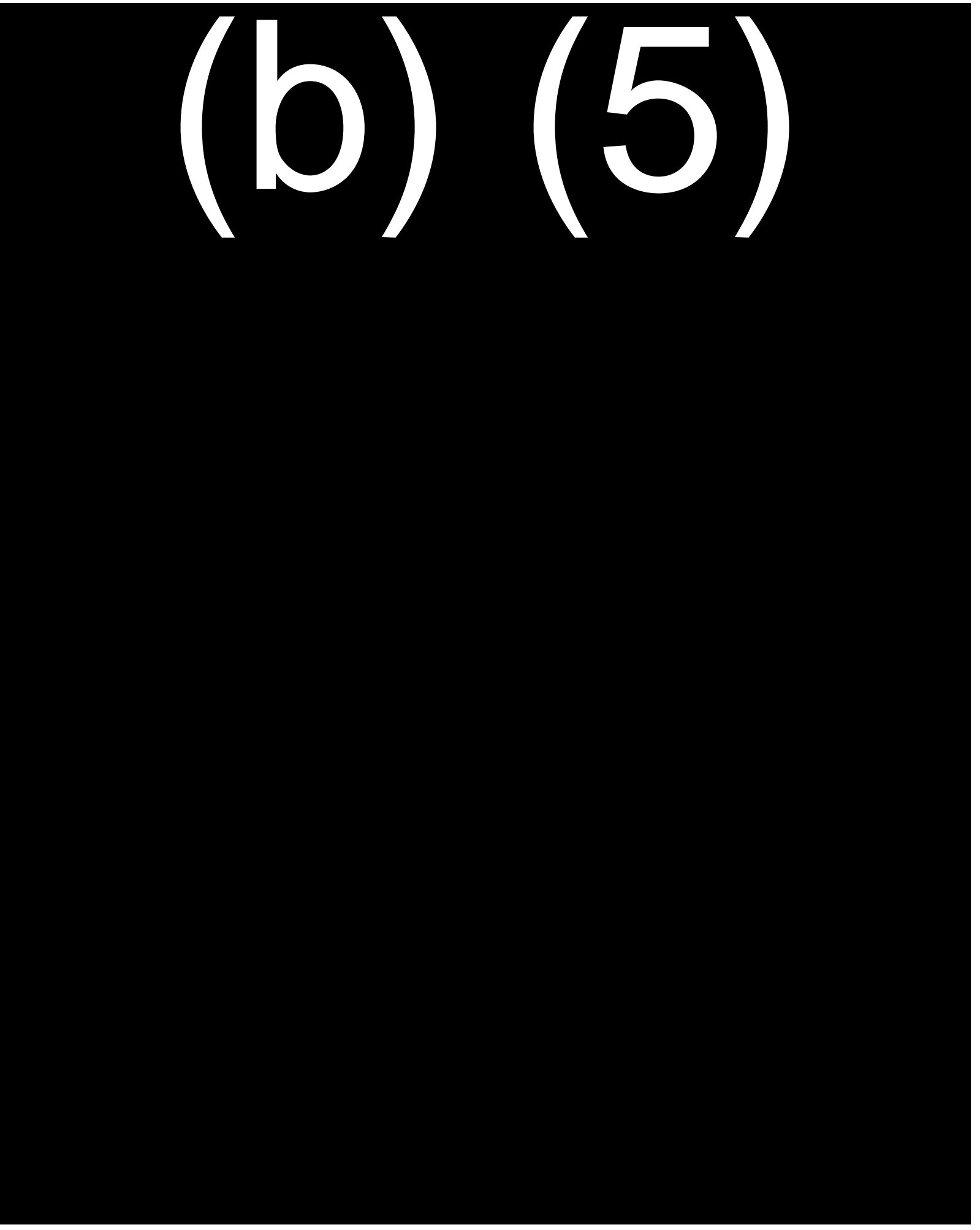
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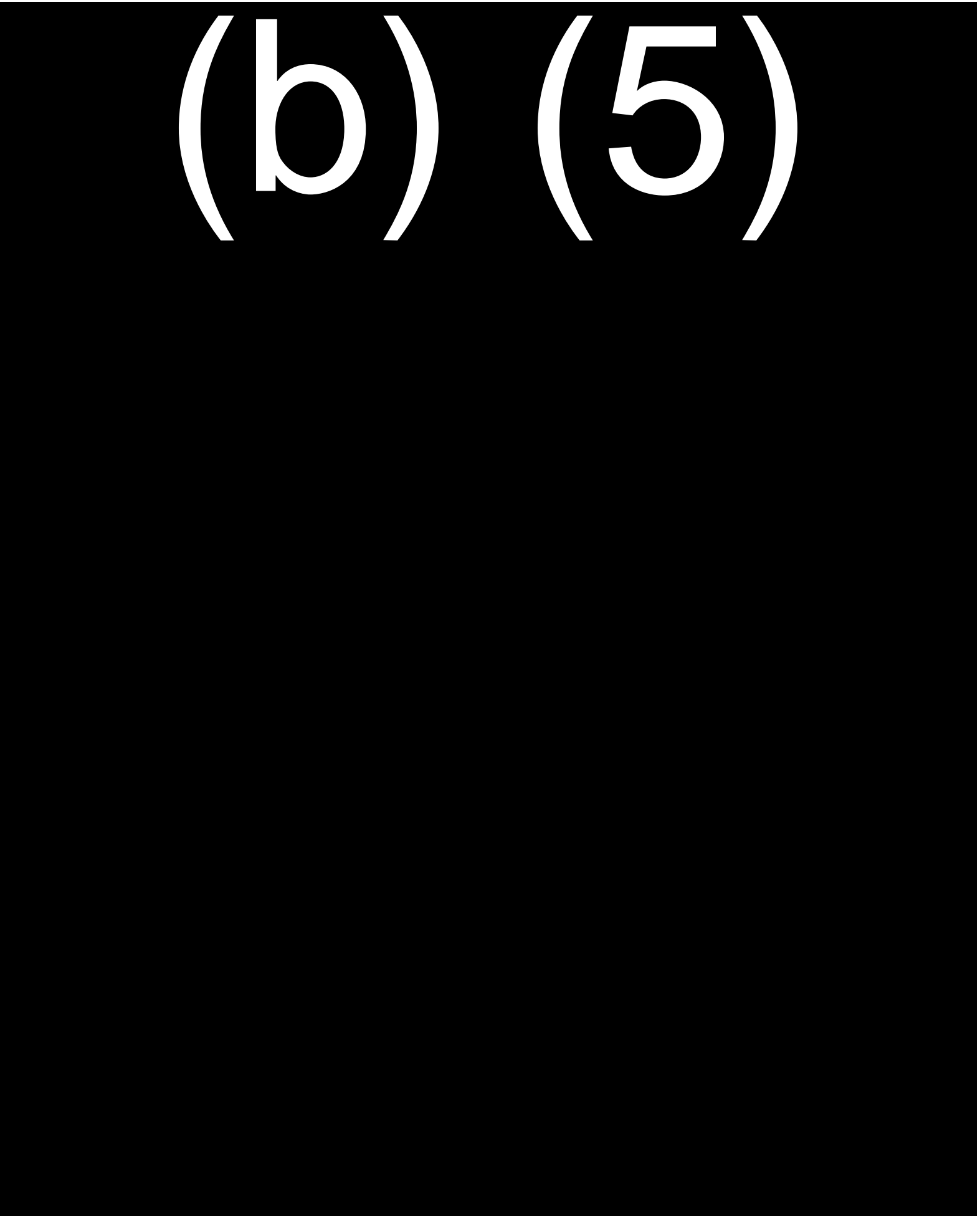


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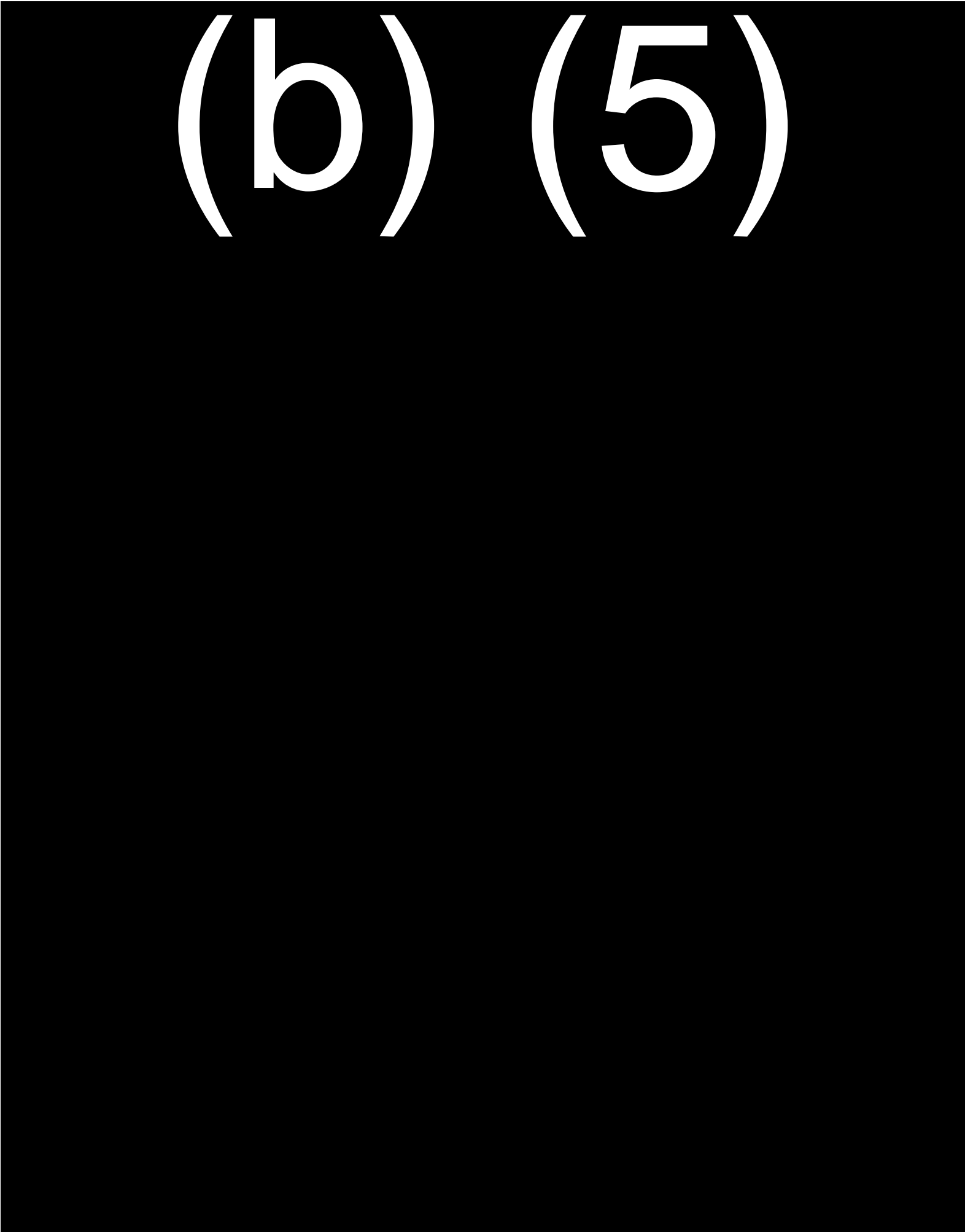
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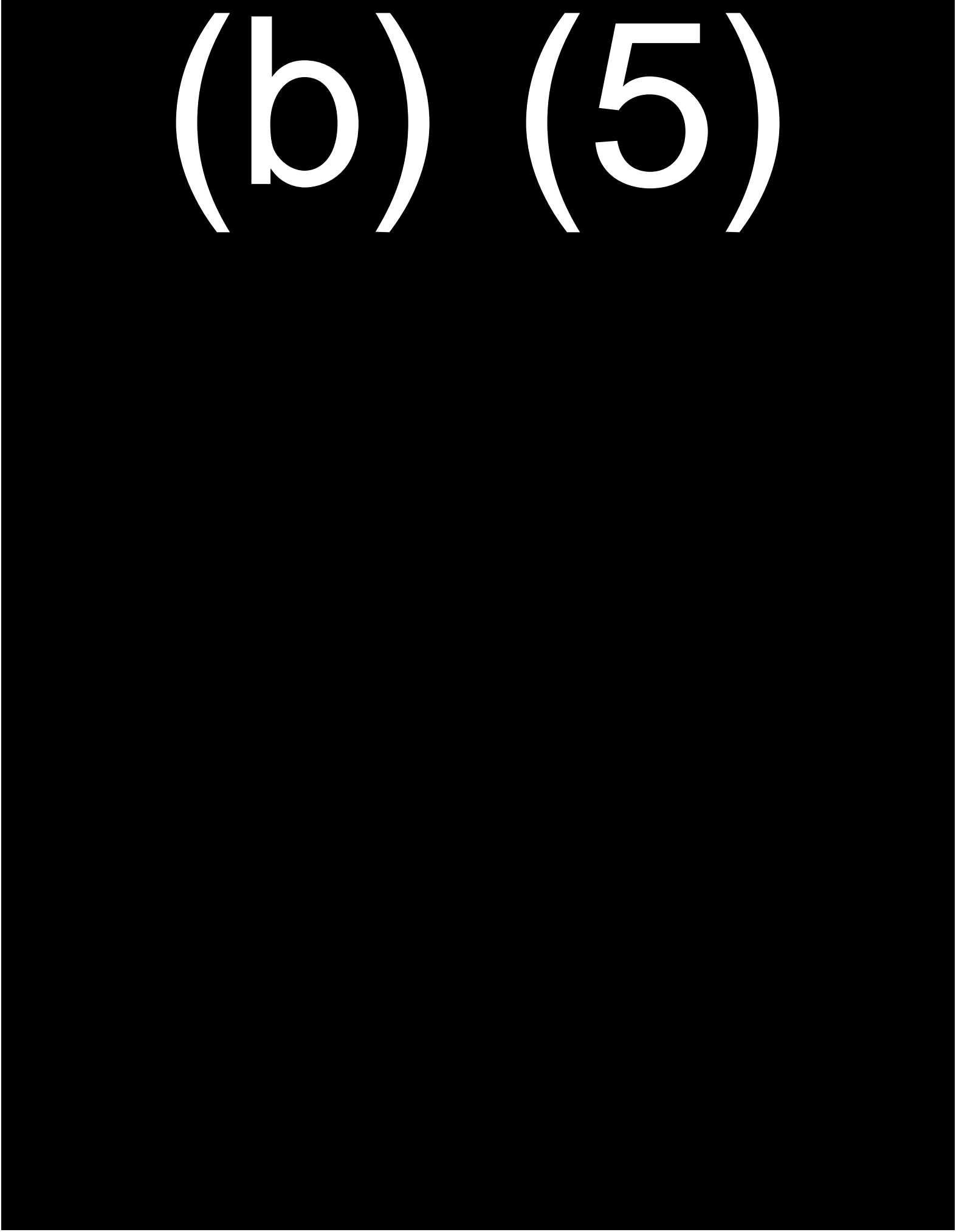
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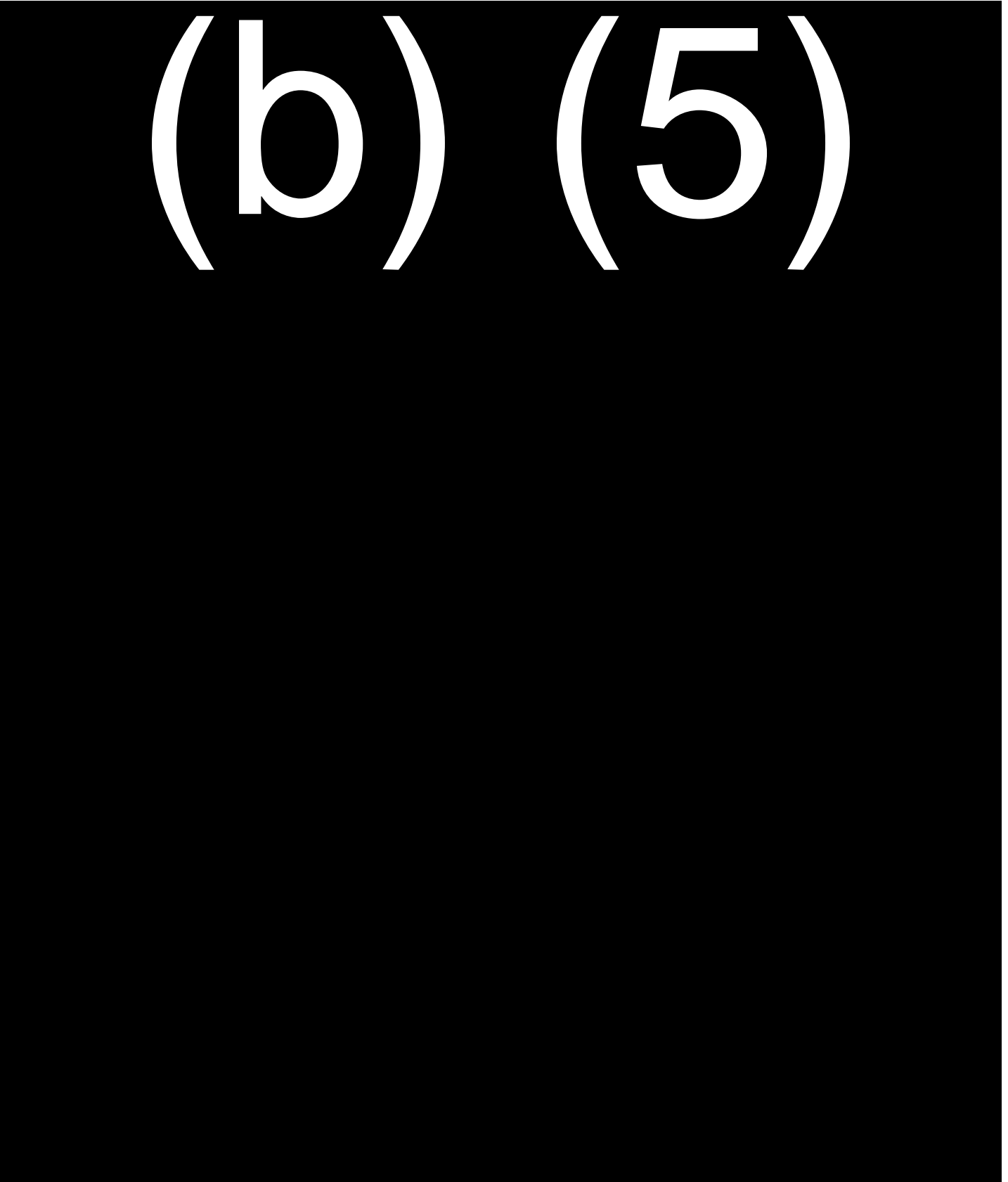


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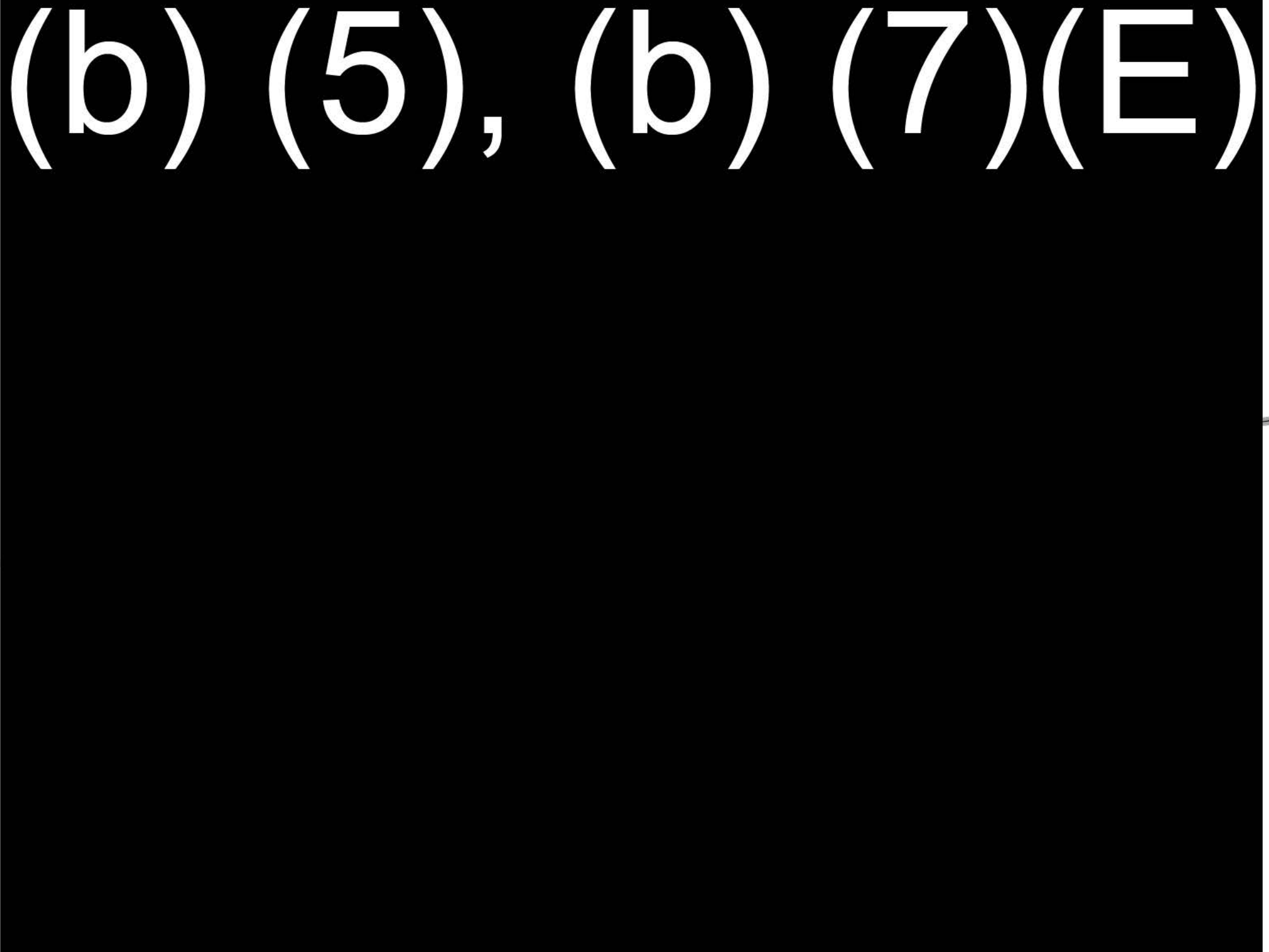
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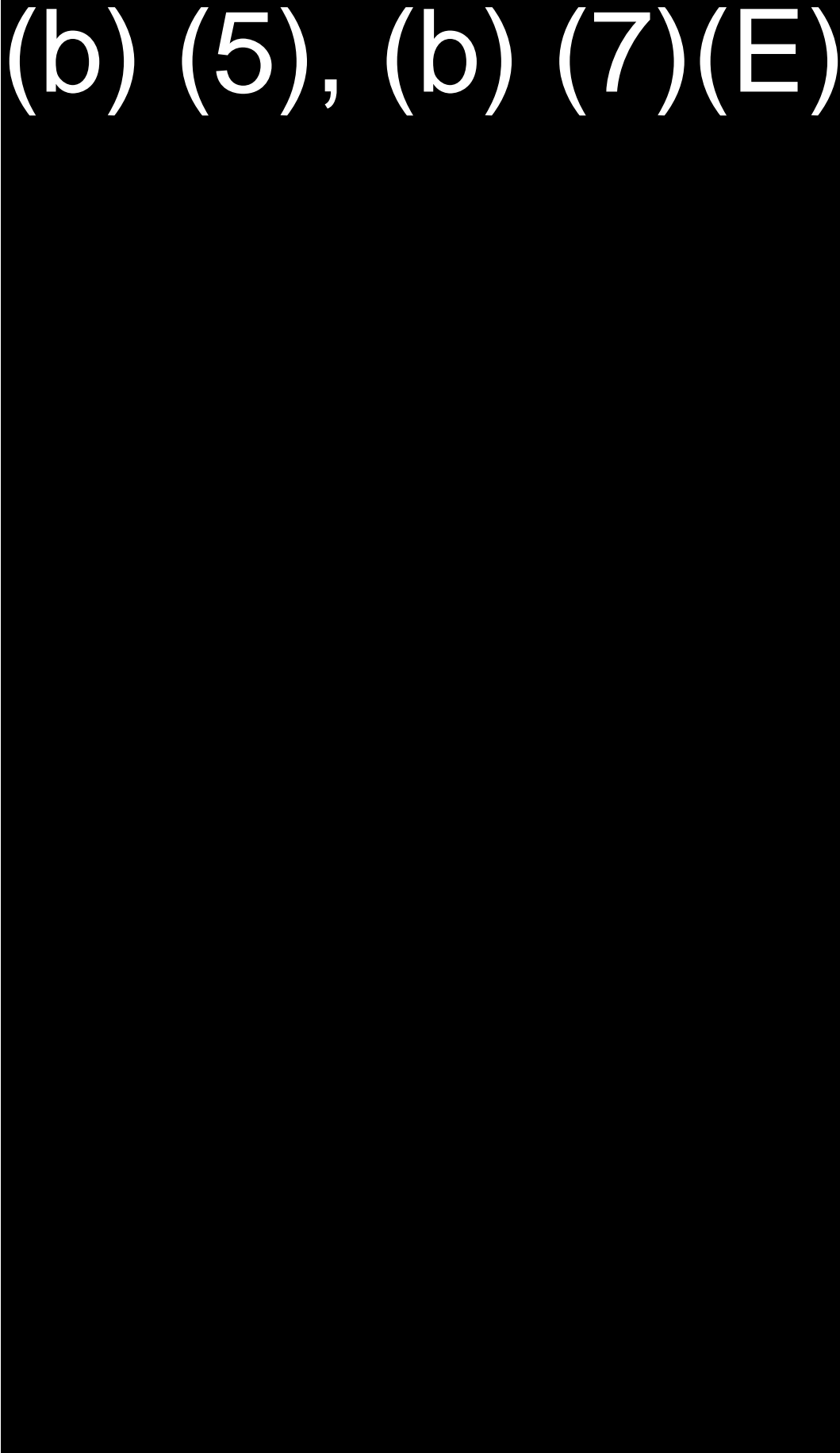
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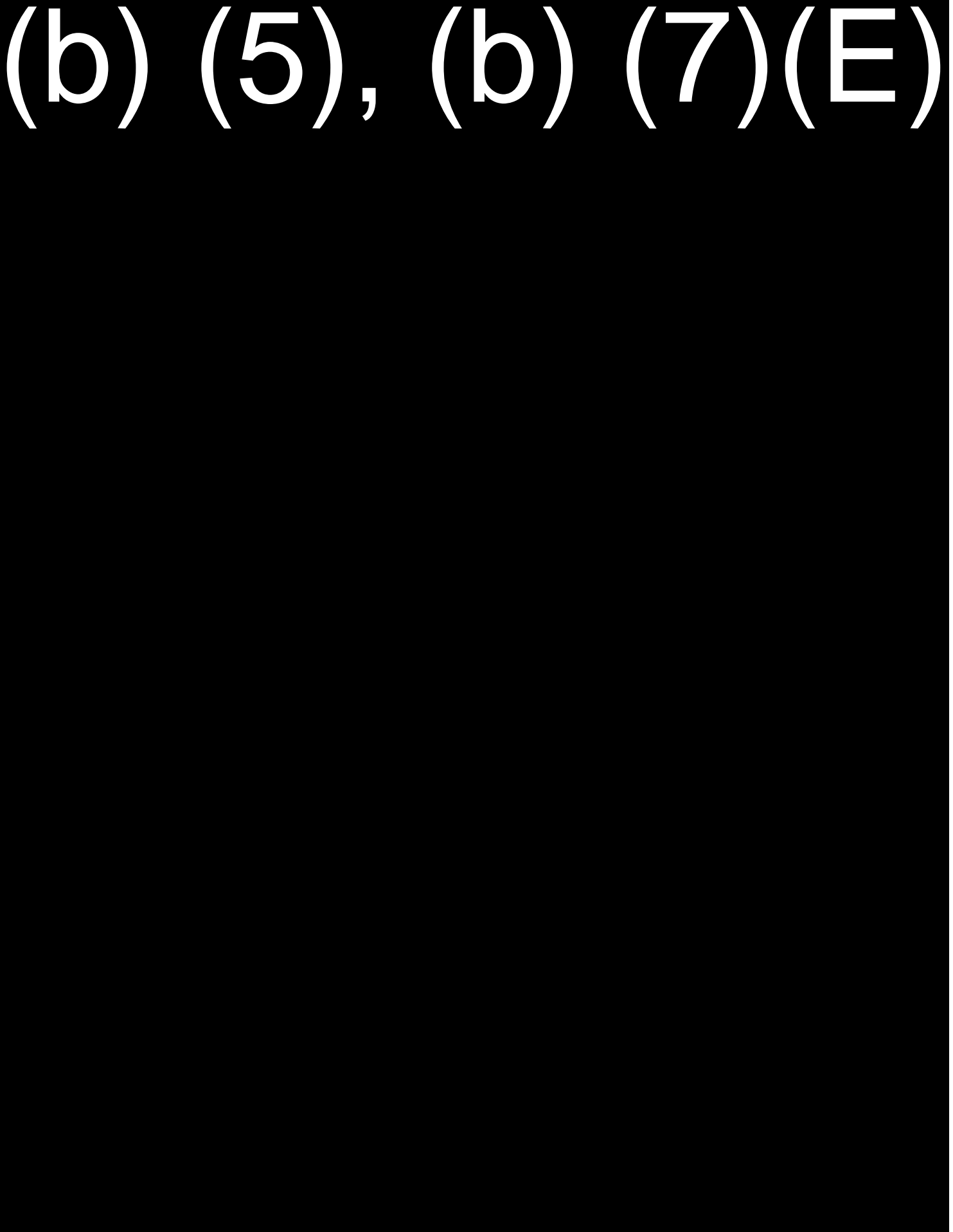


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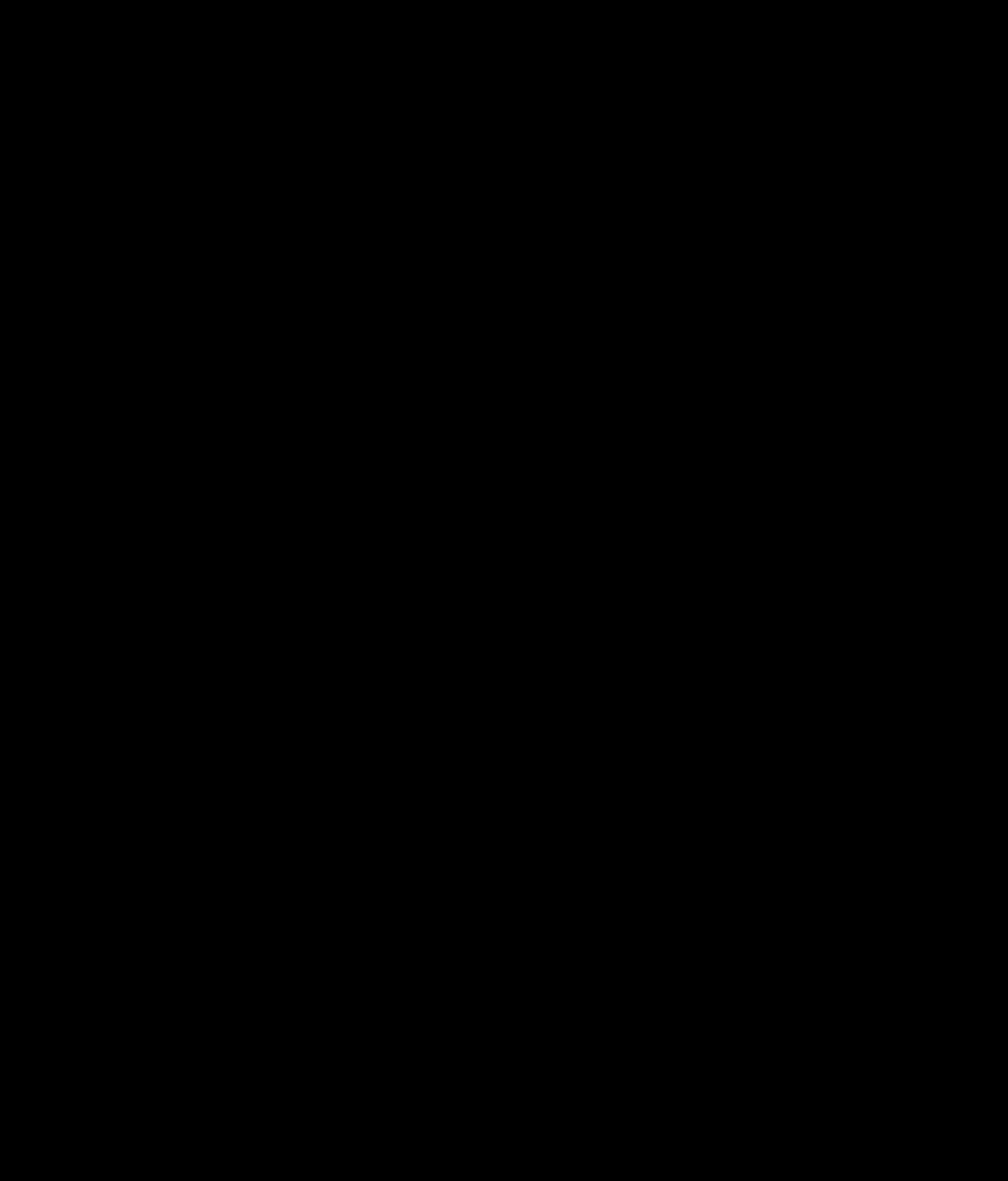
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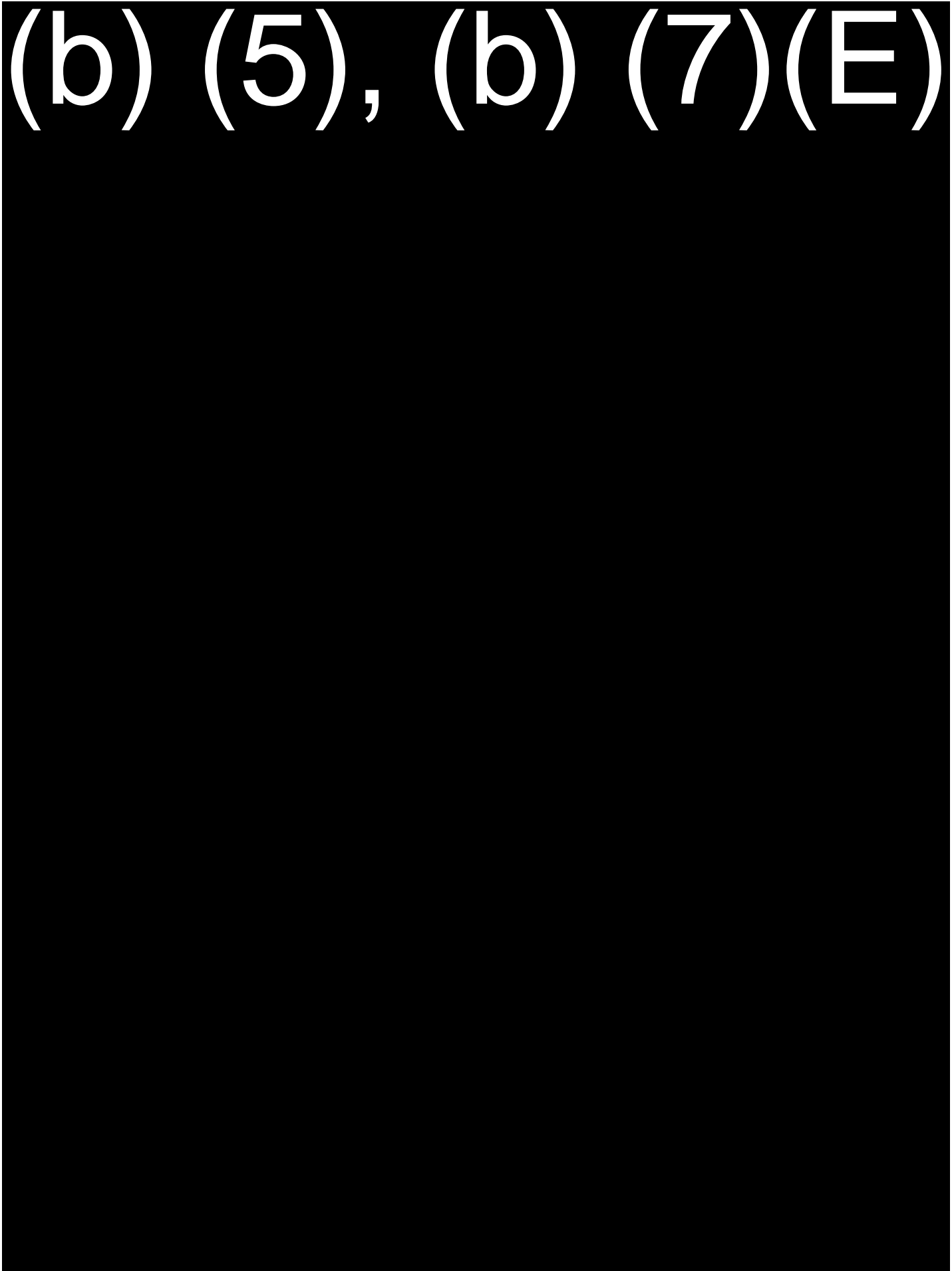
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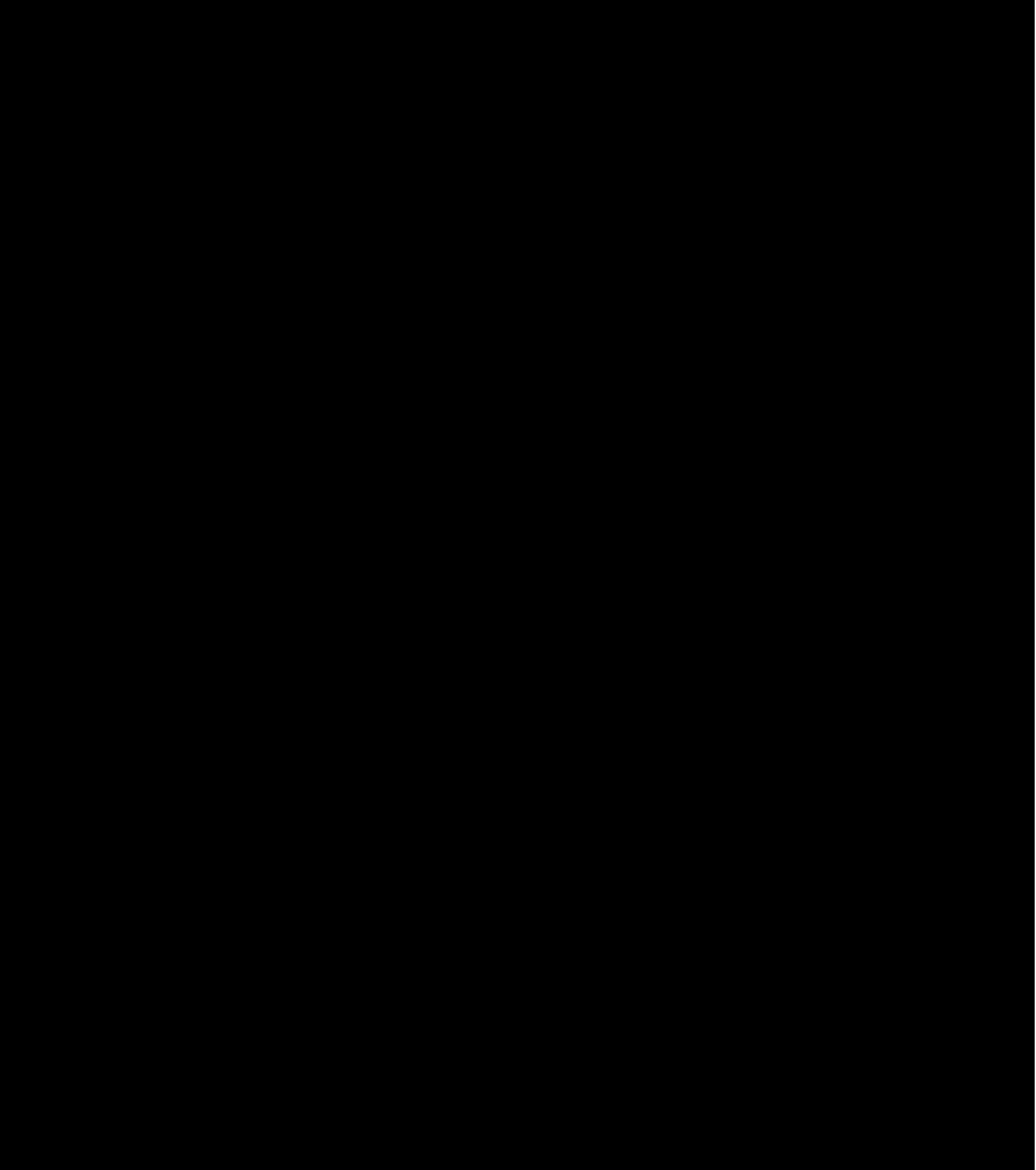
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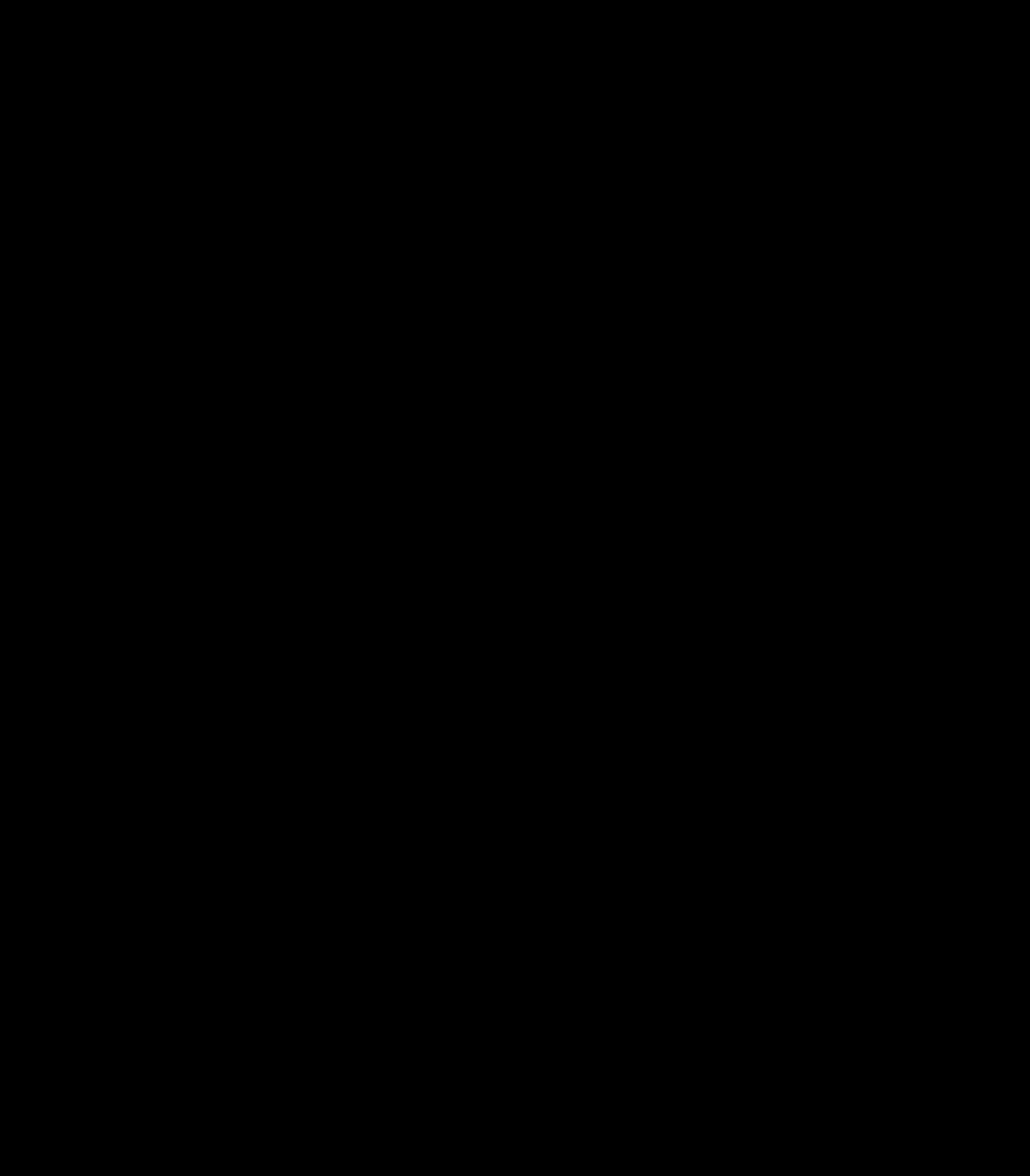
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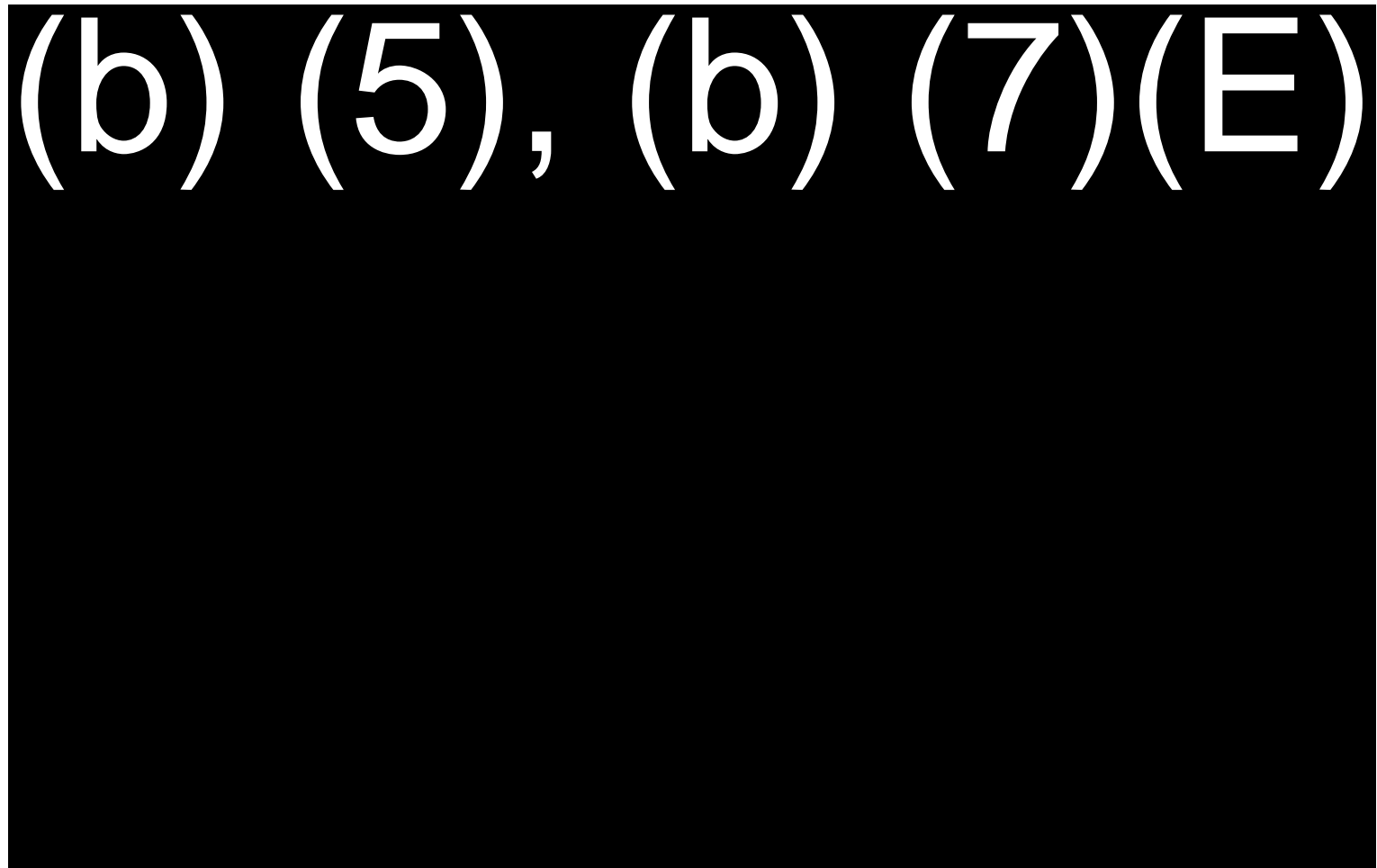
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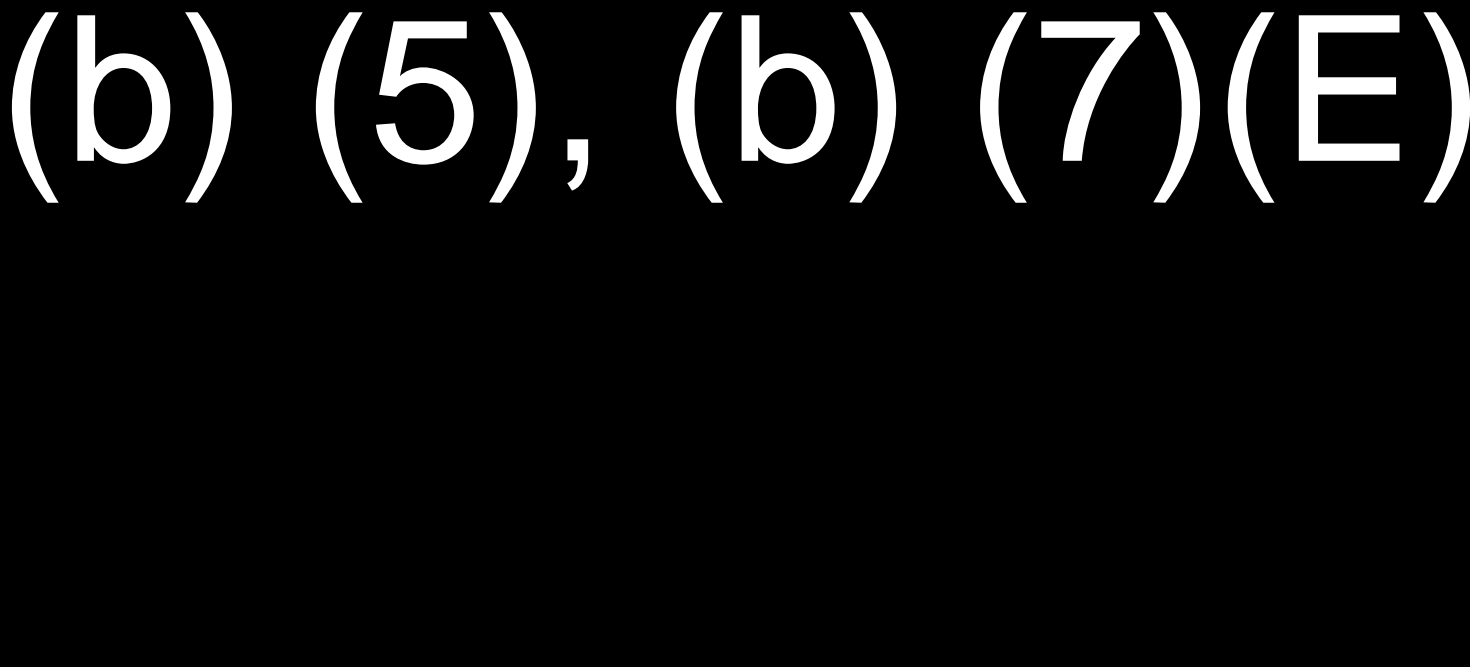
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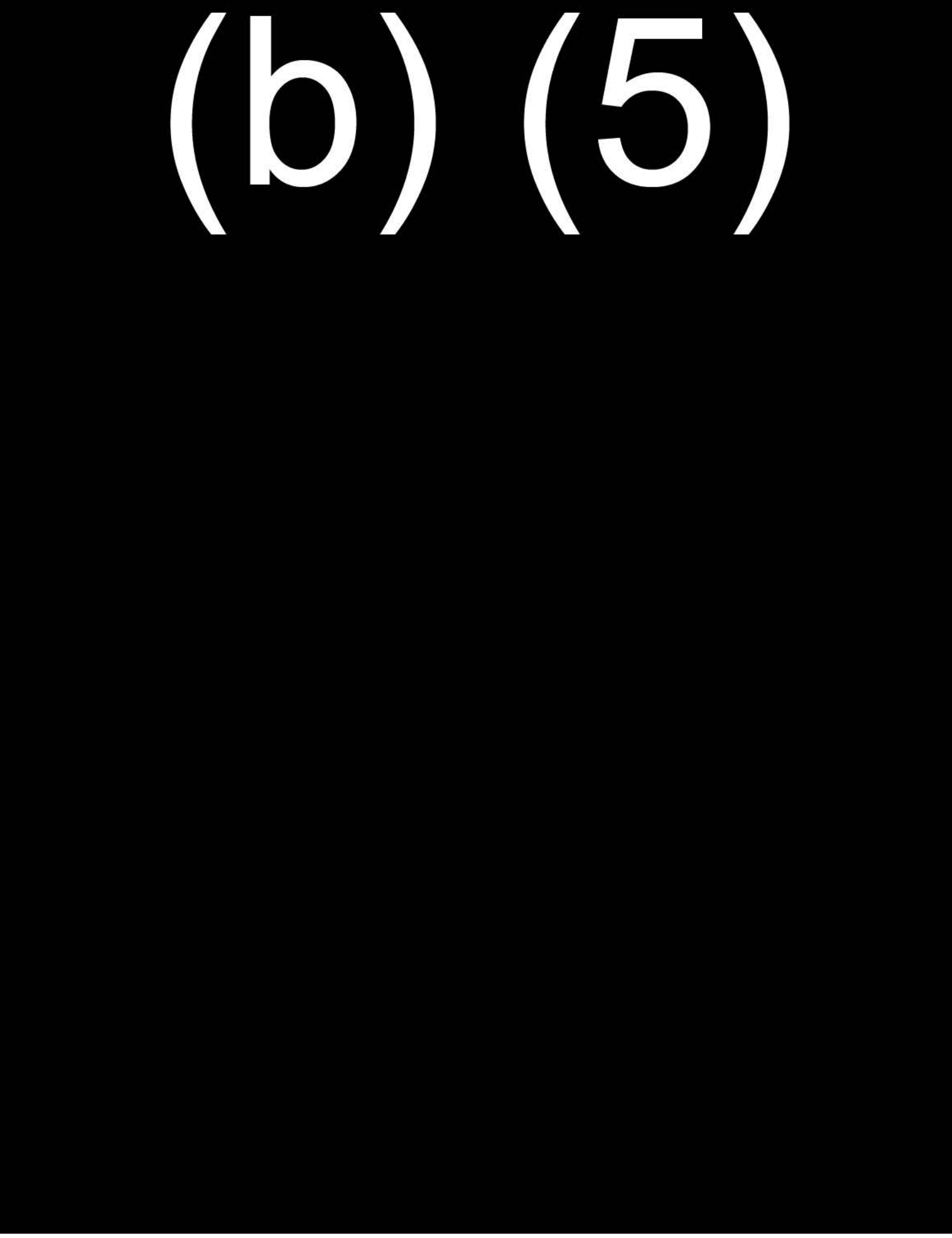
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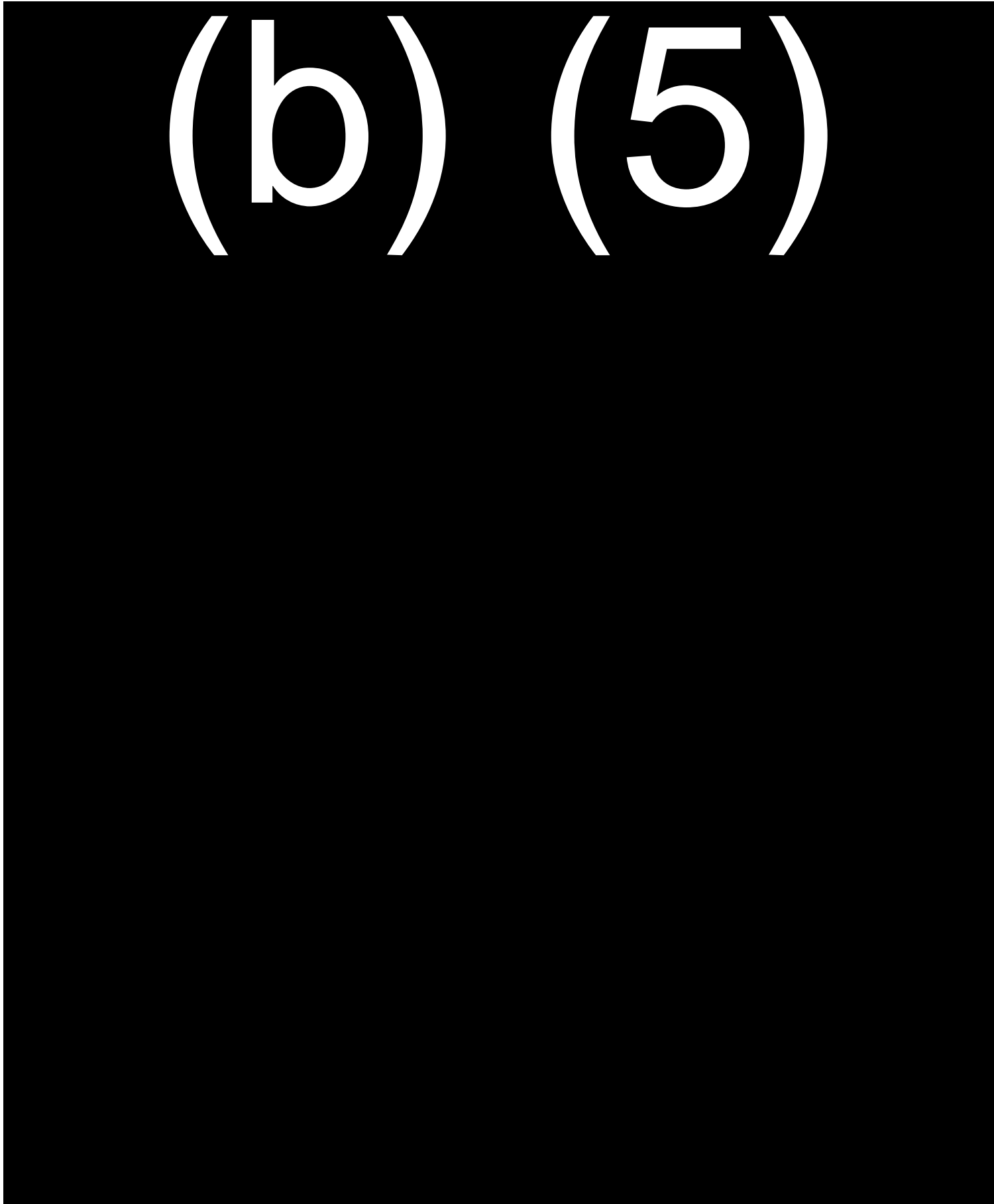
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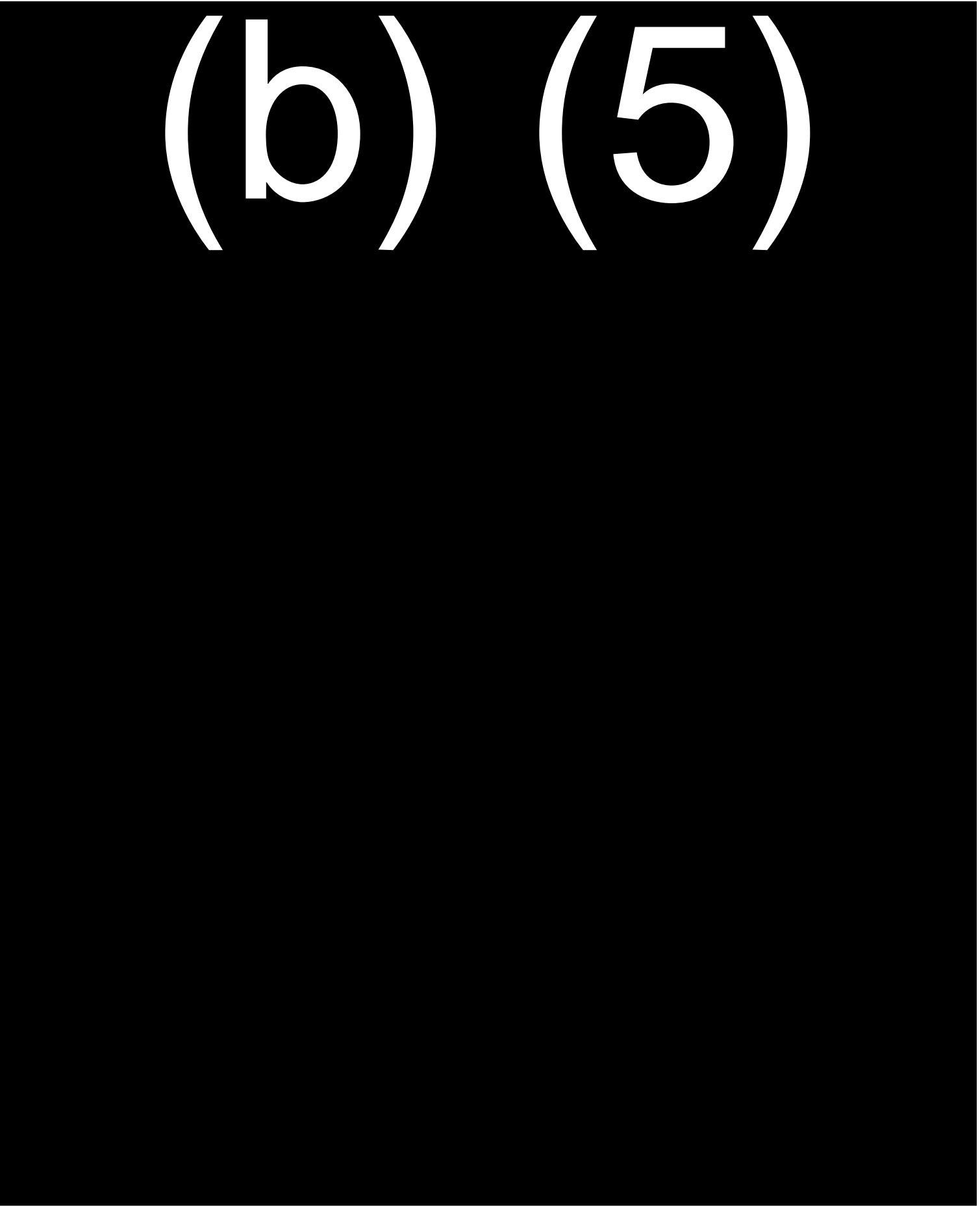
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(b) (5)

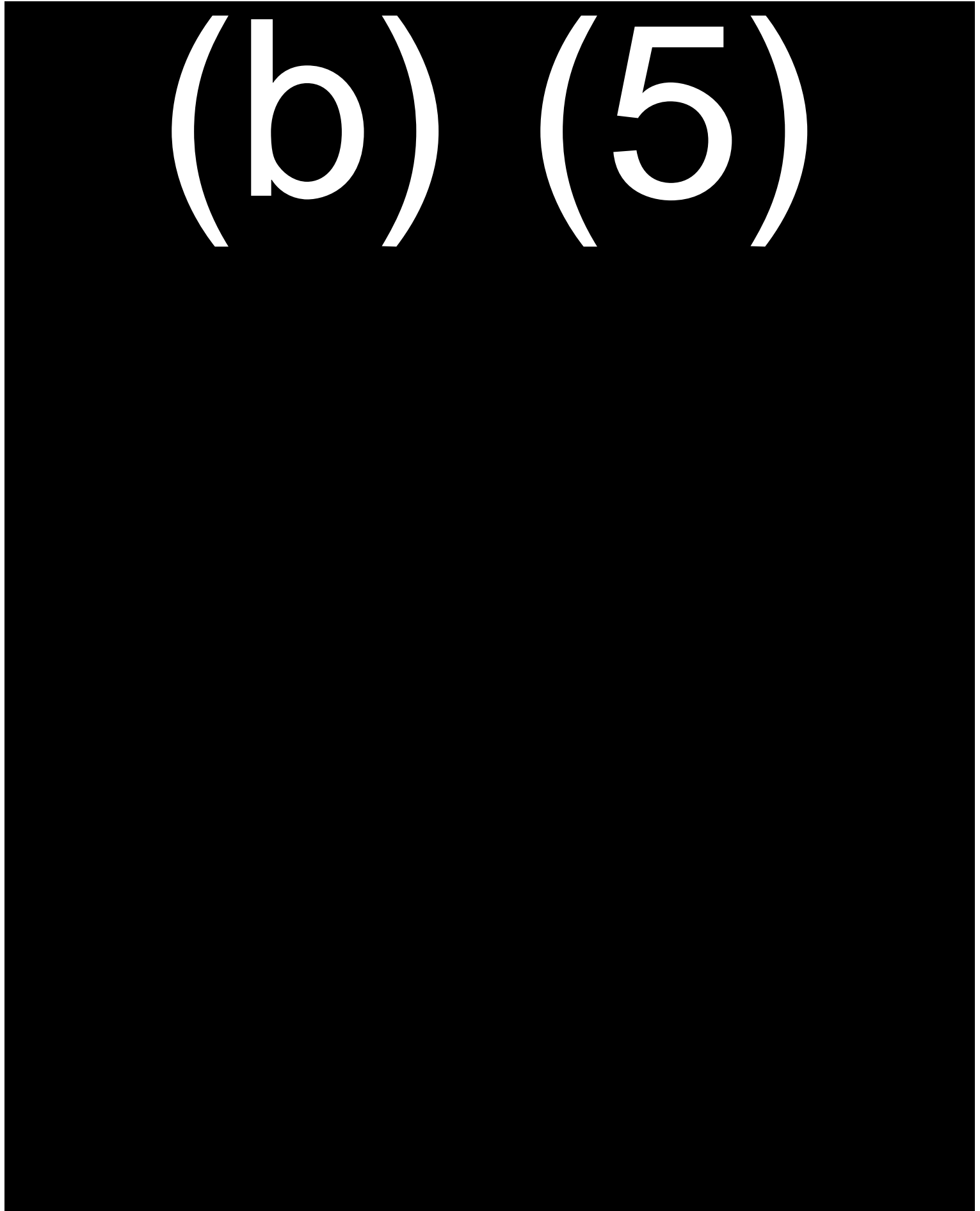


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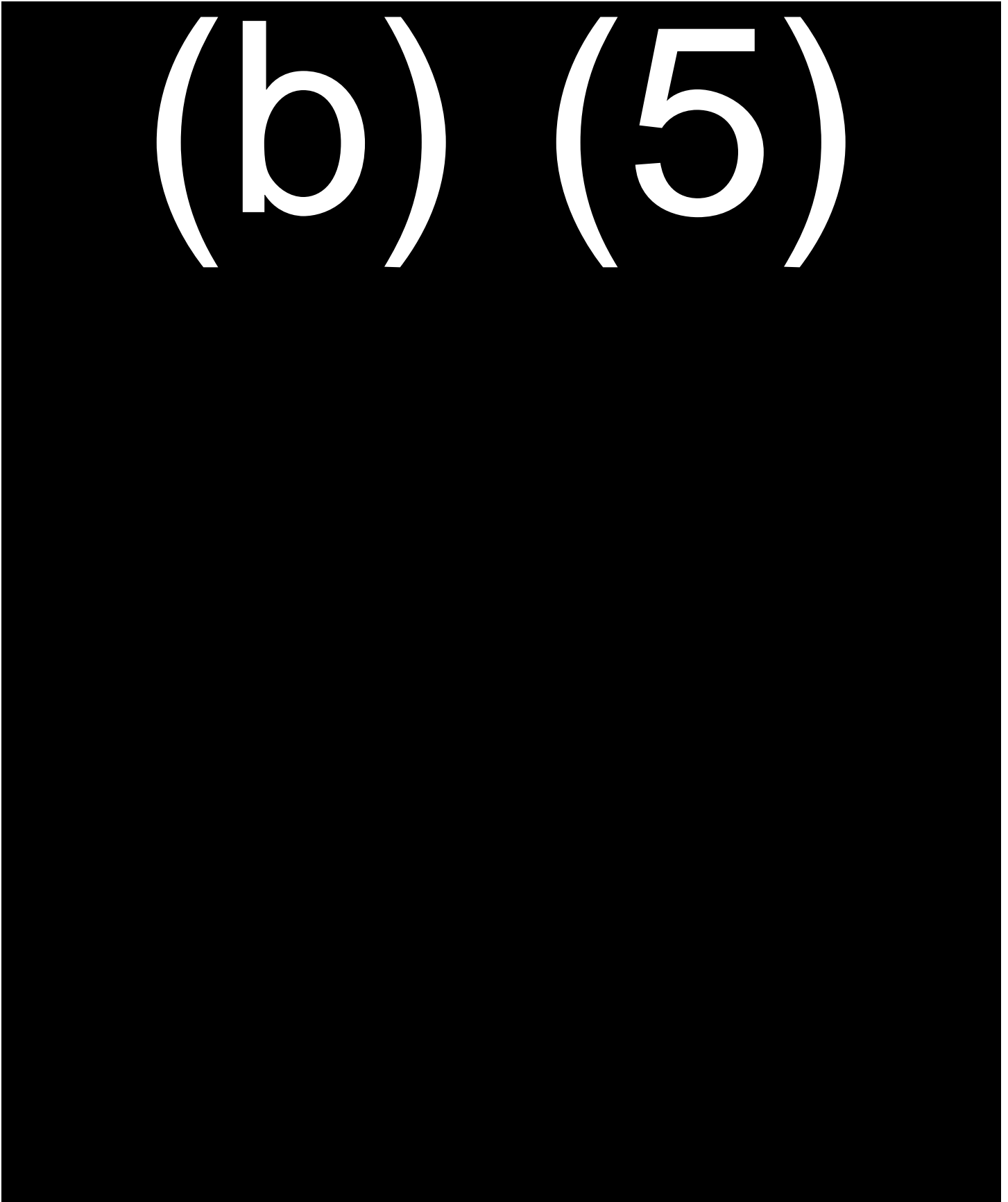


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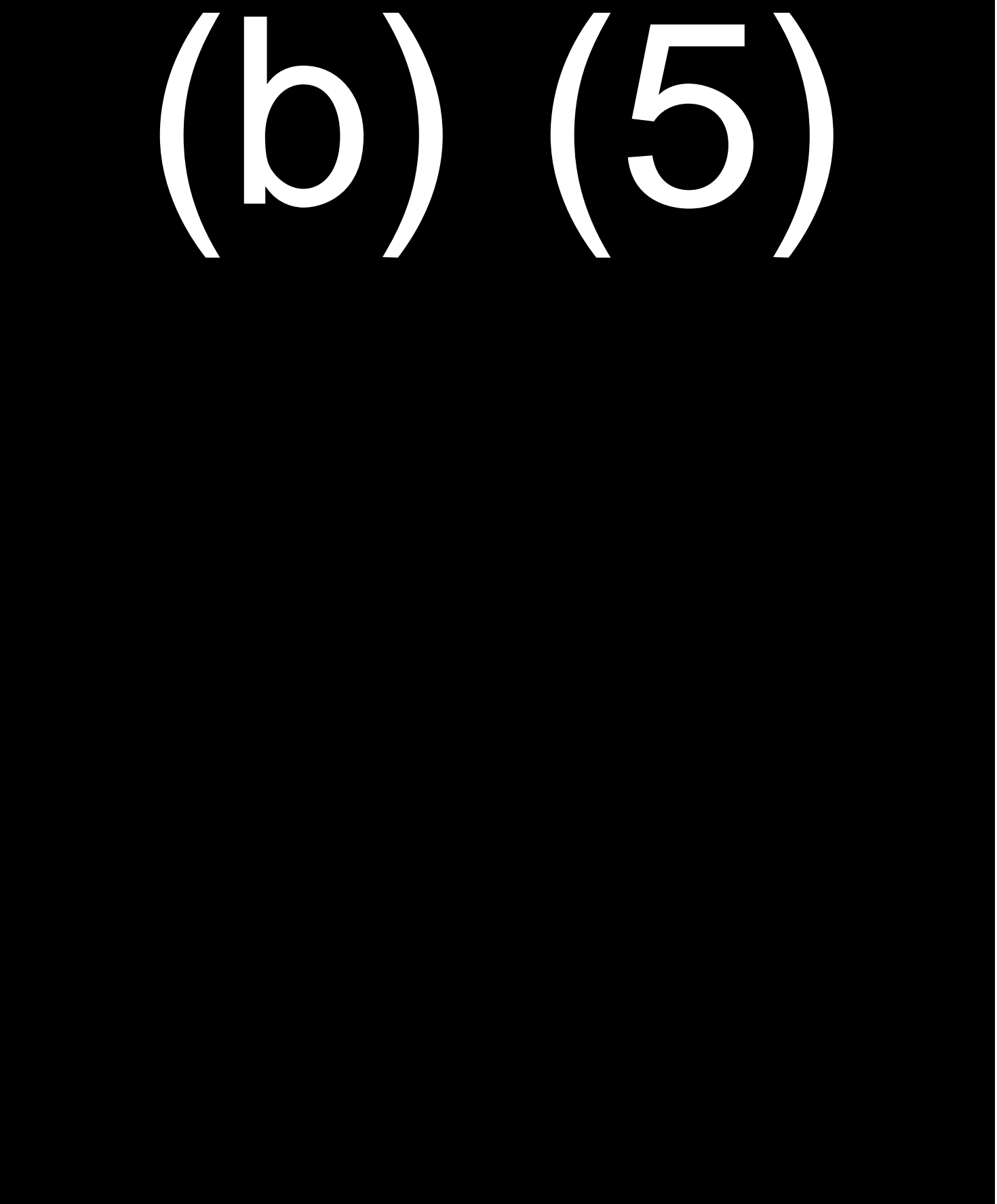
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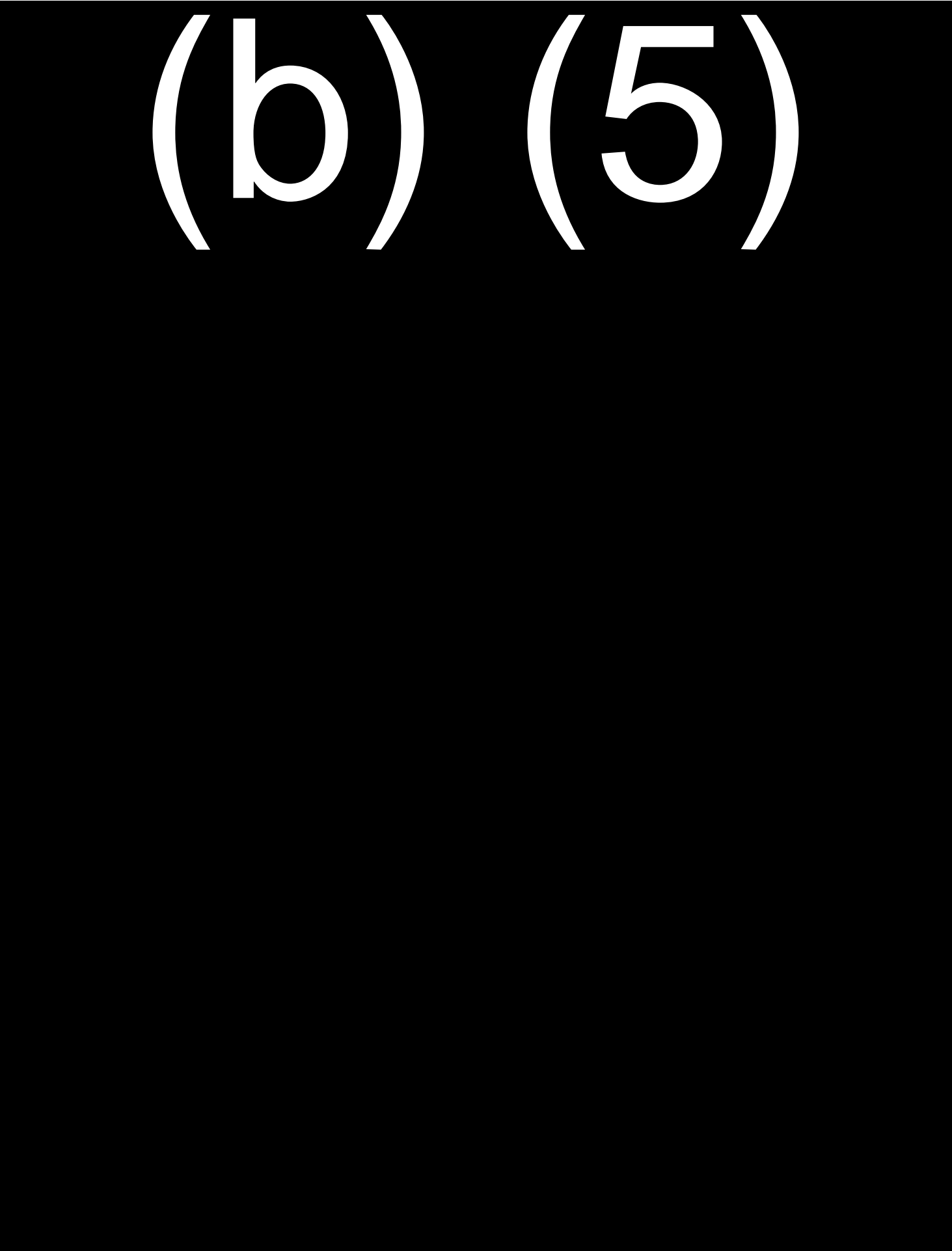
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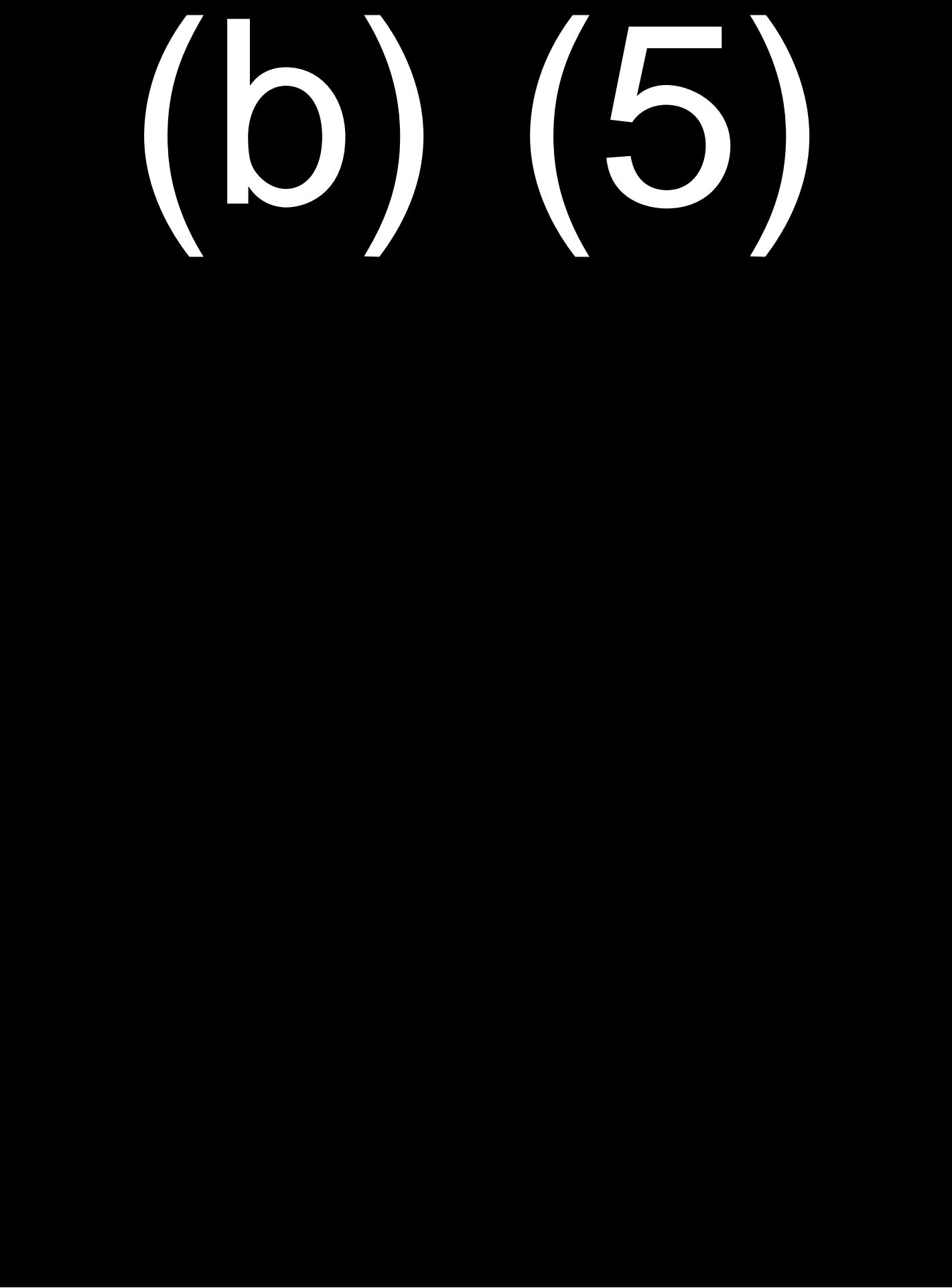
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(b) (5)

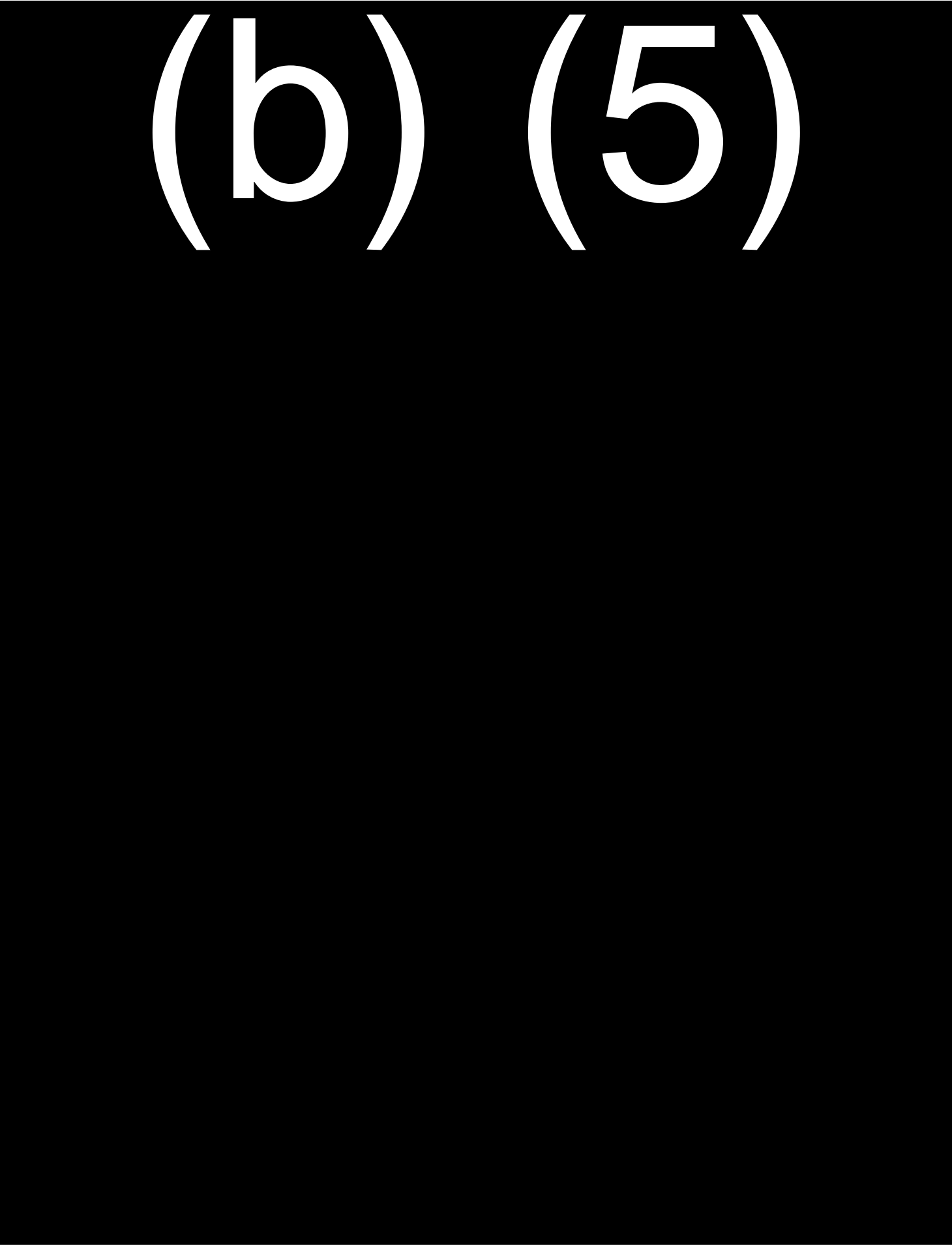


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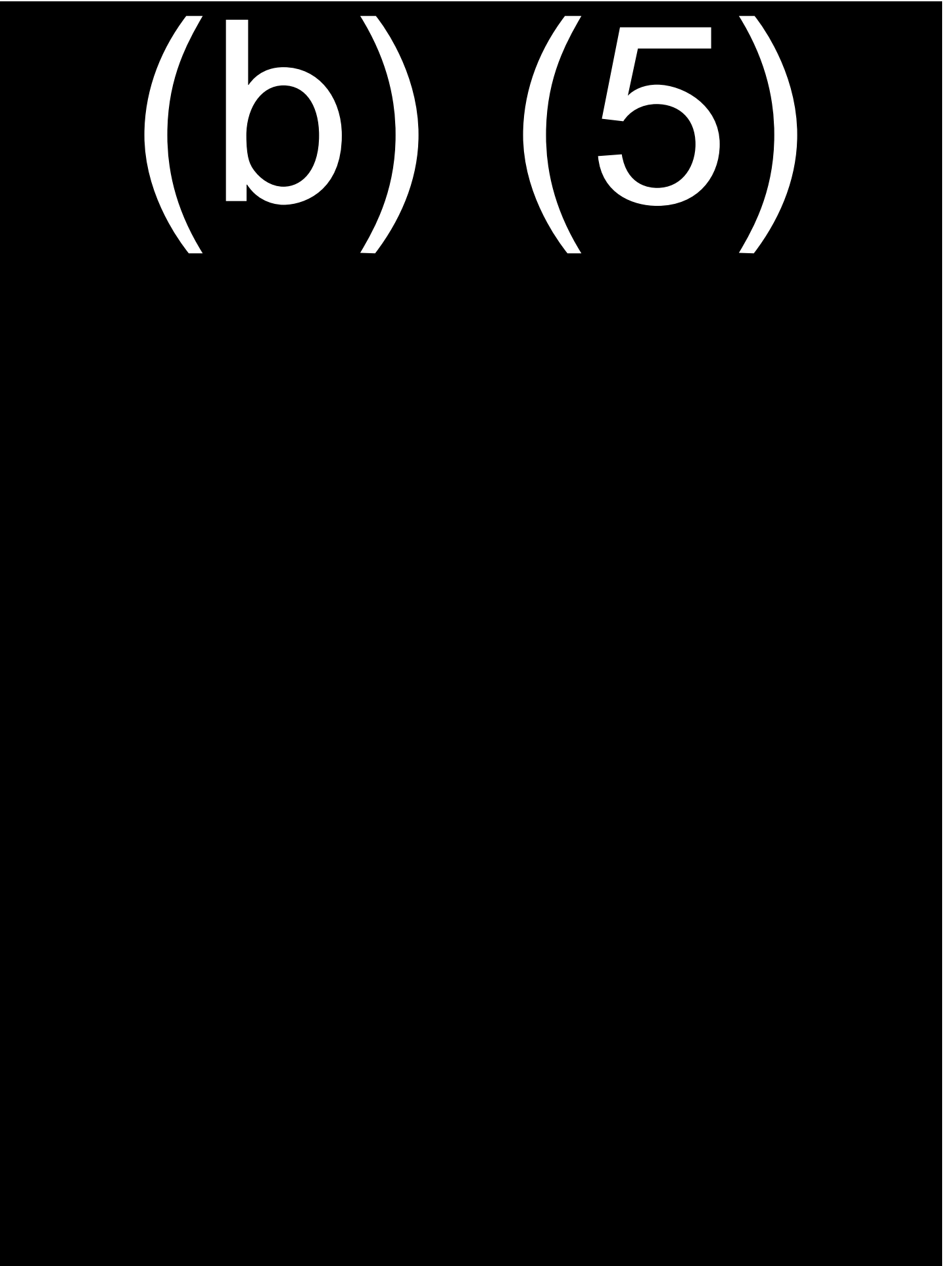


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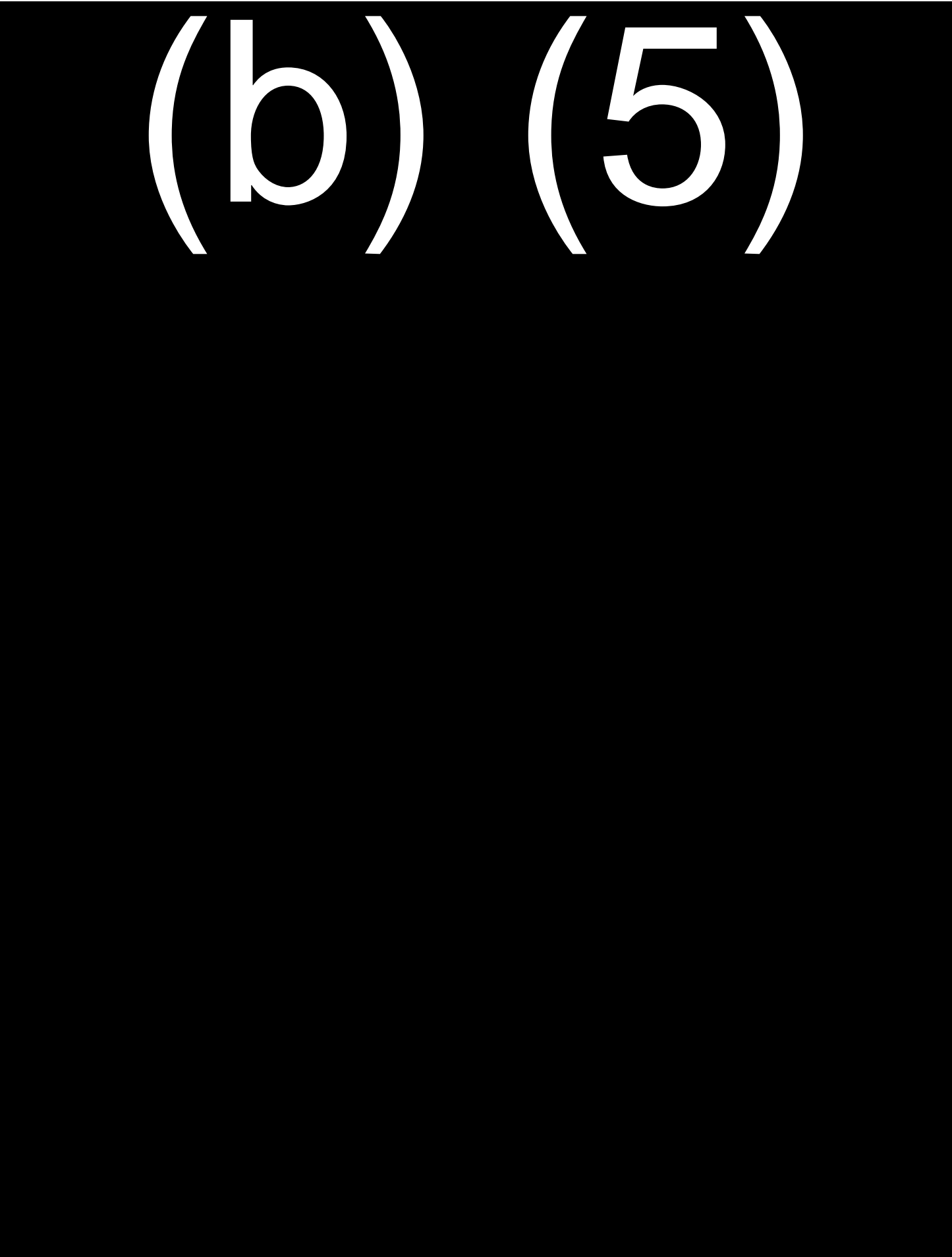
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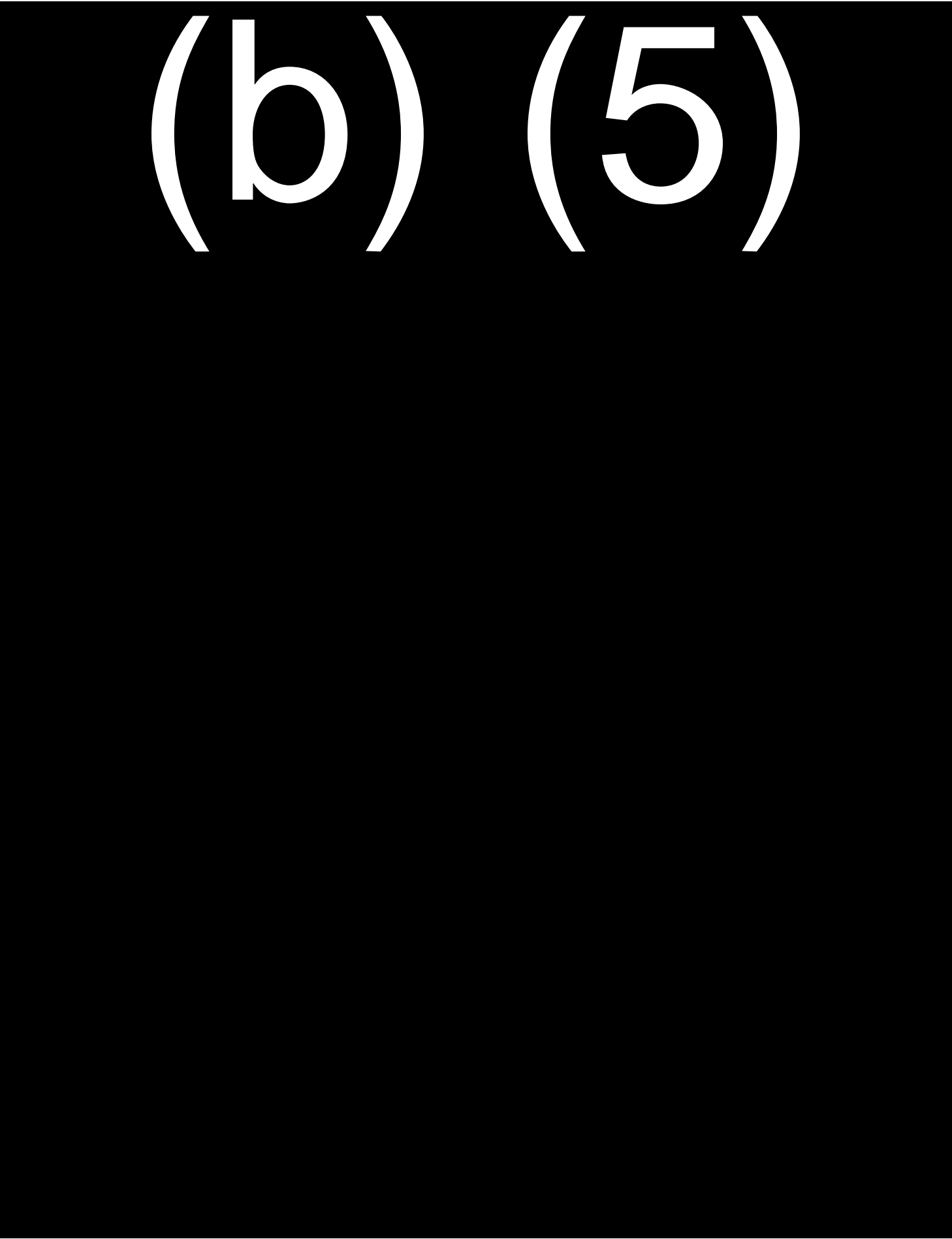
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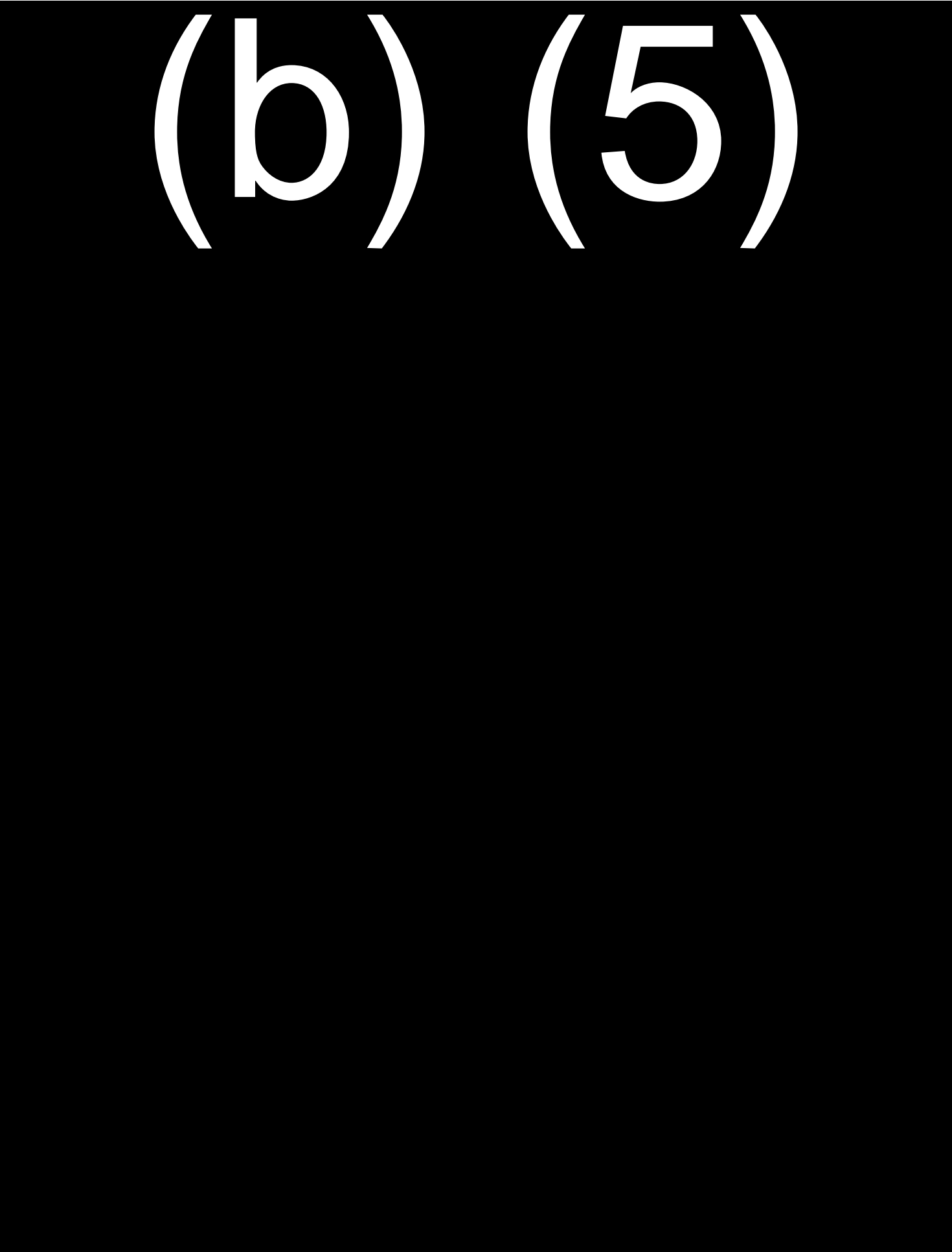
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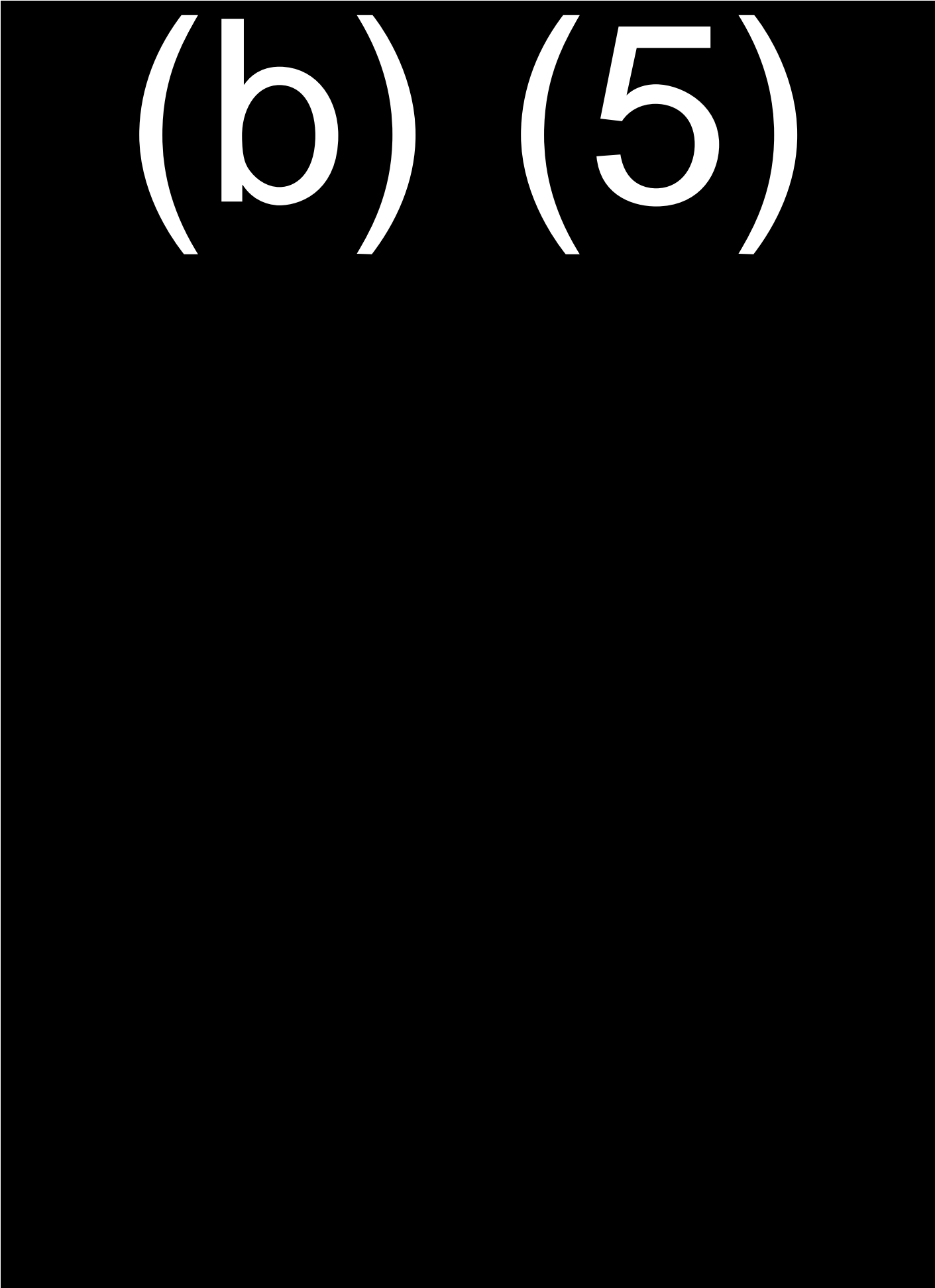
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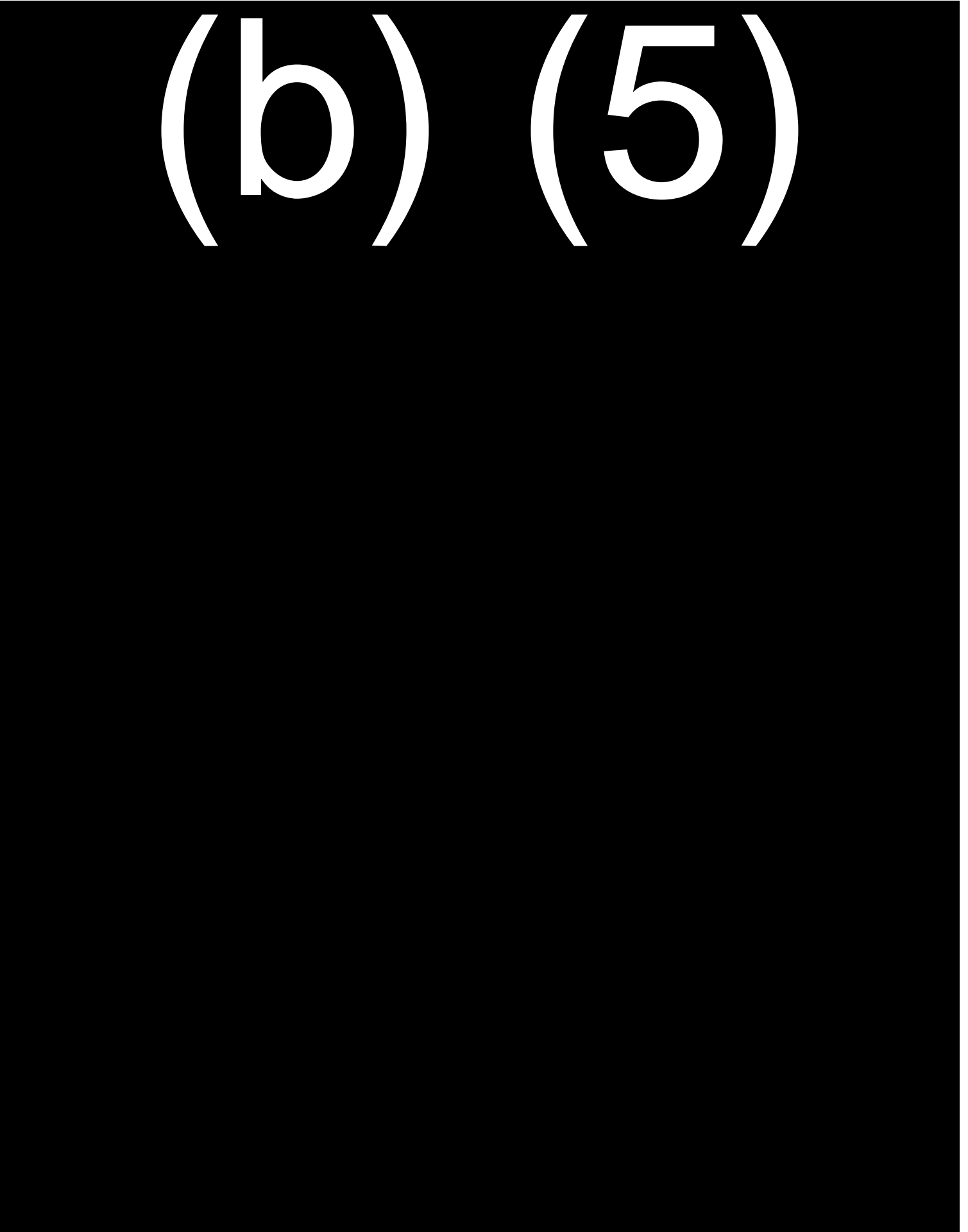
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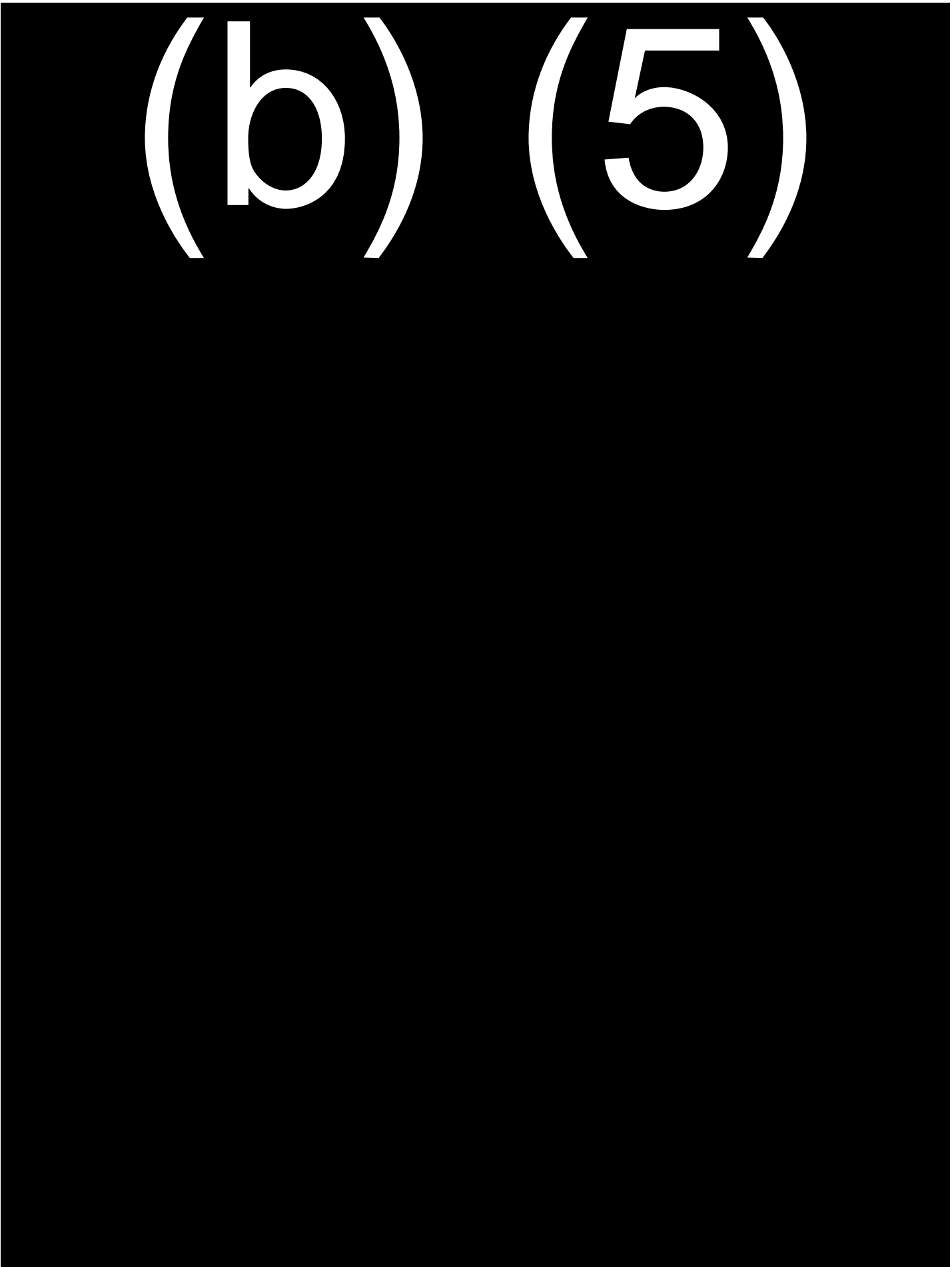
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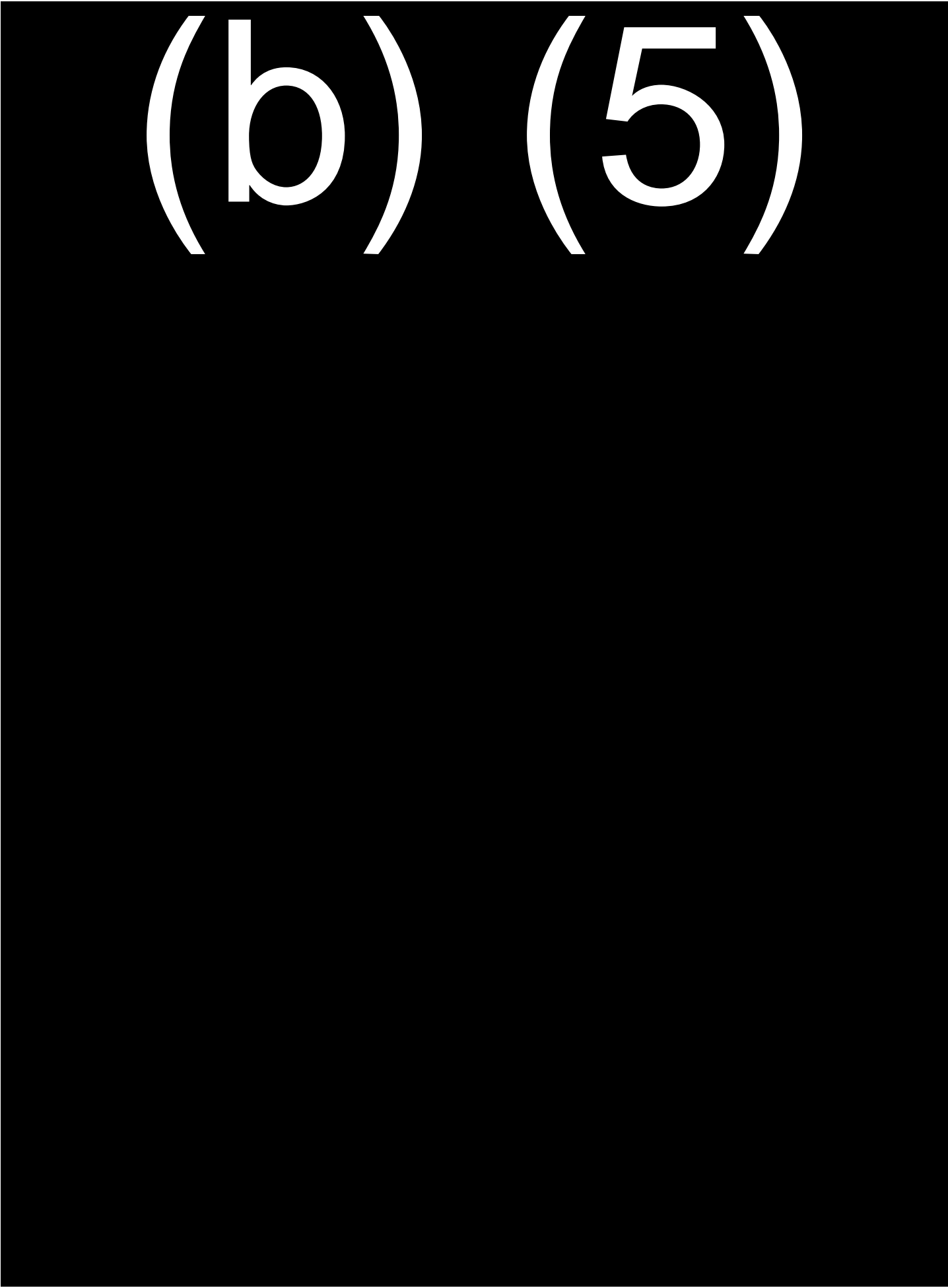
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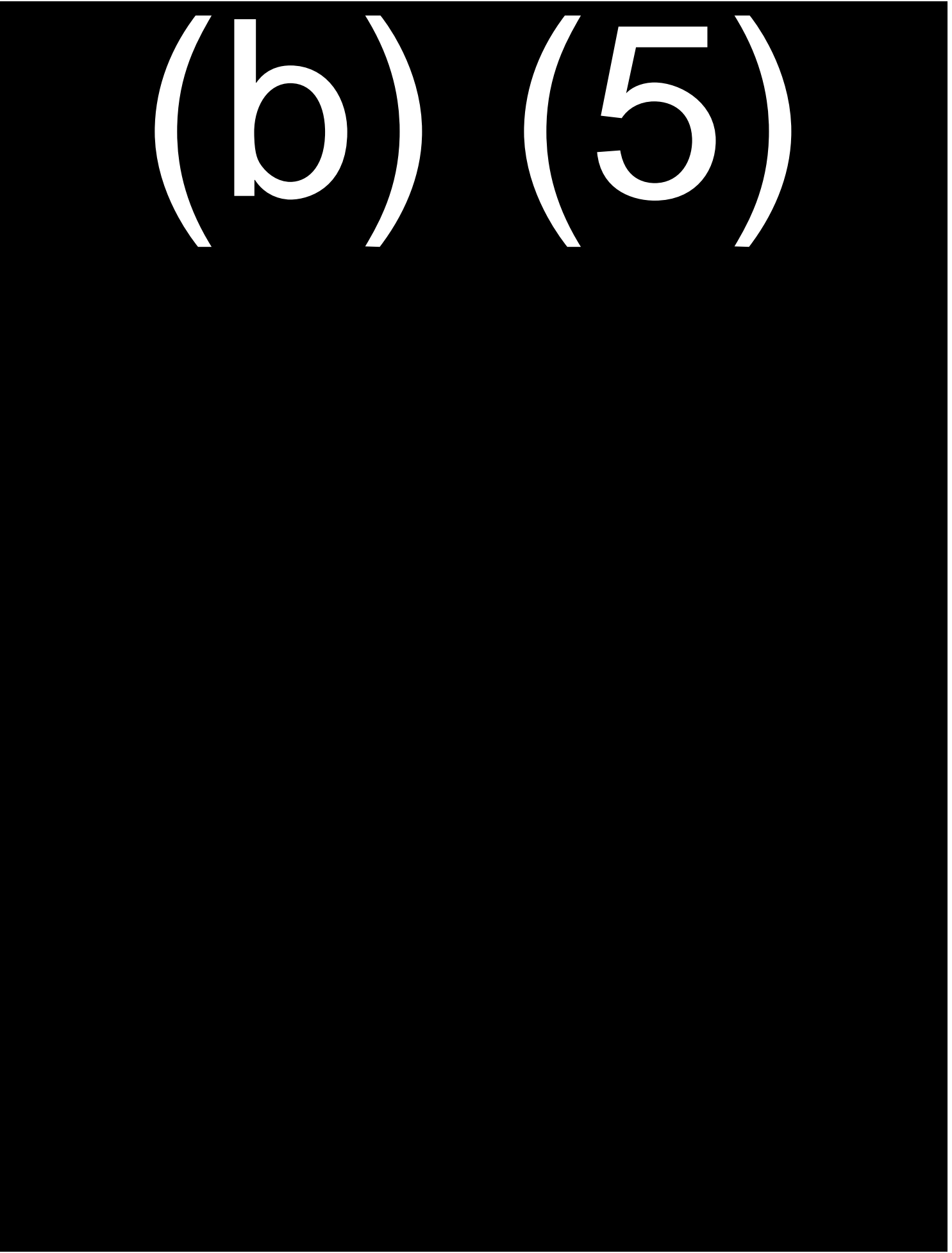
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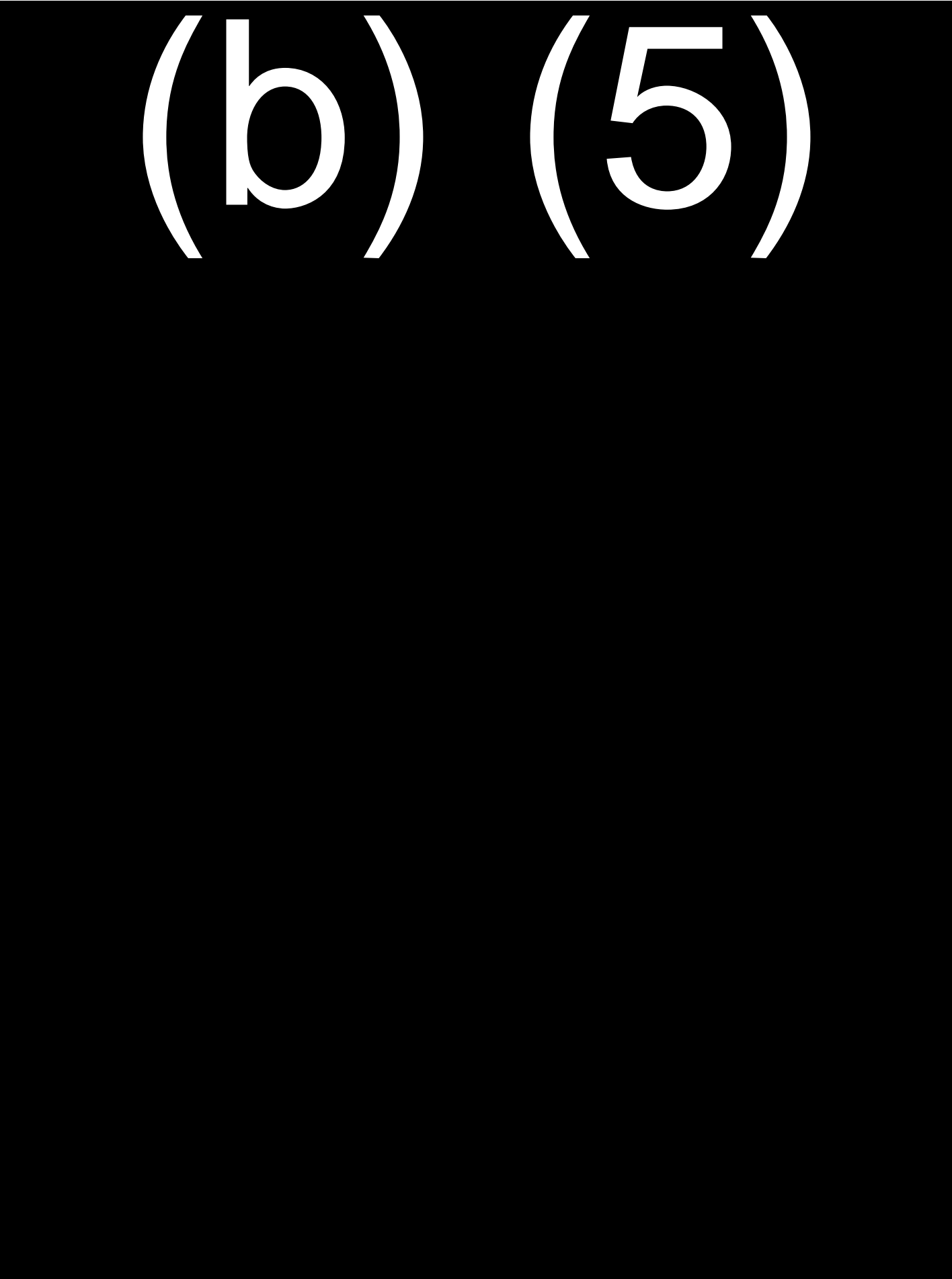
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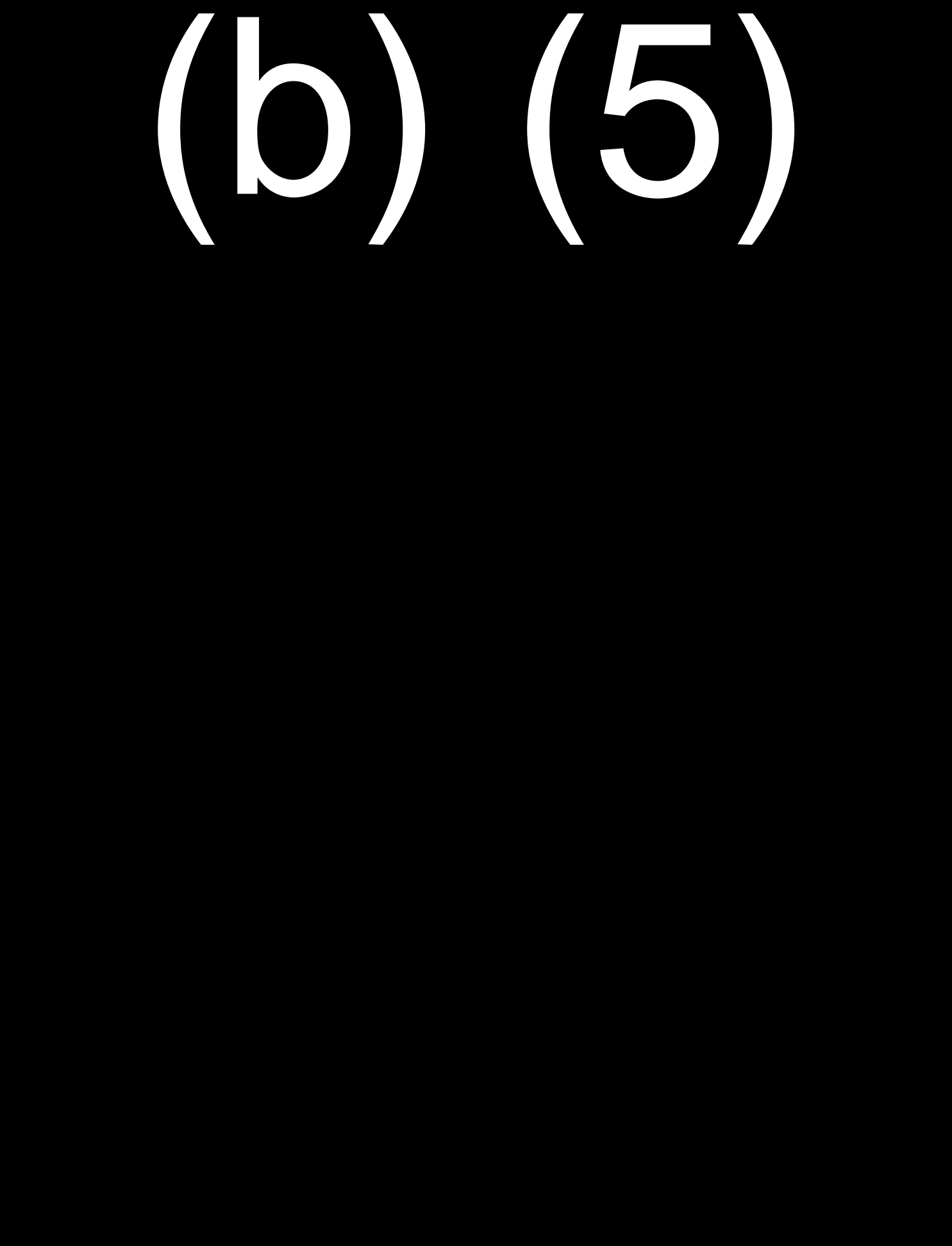
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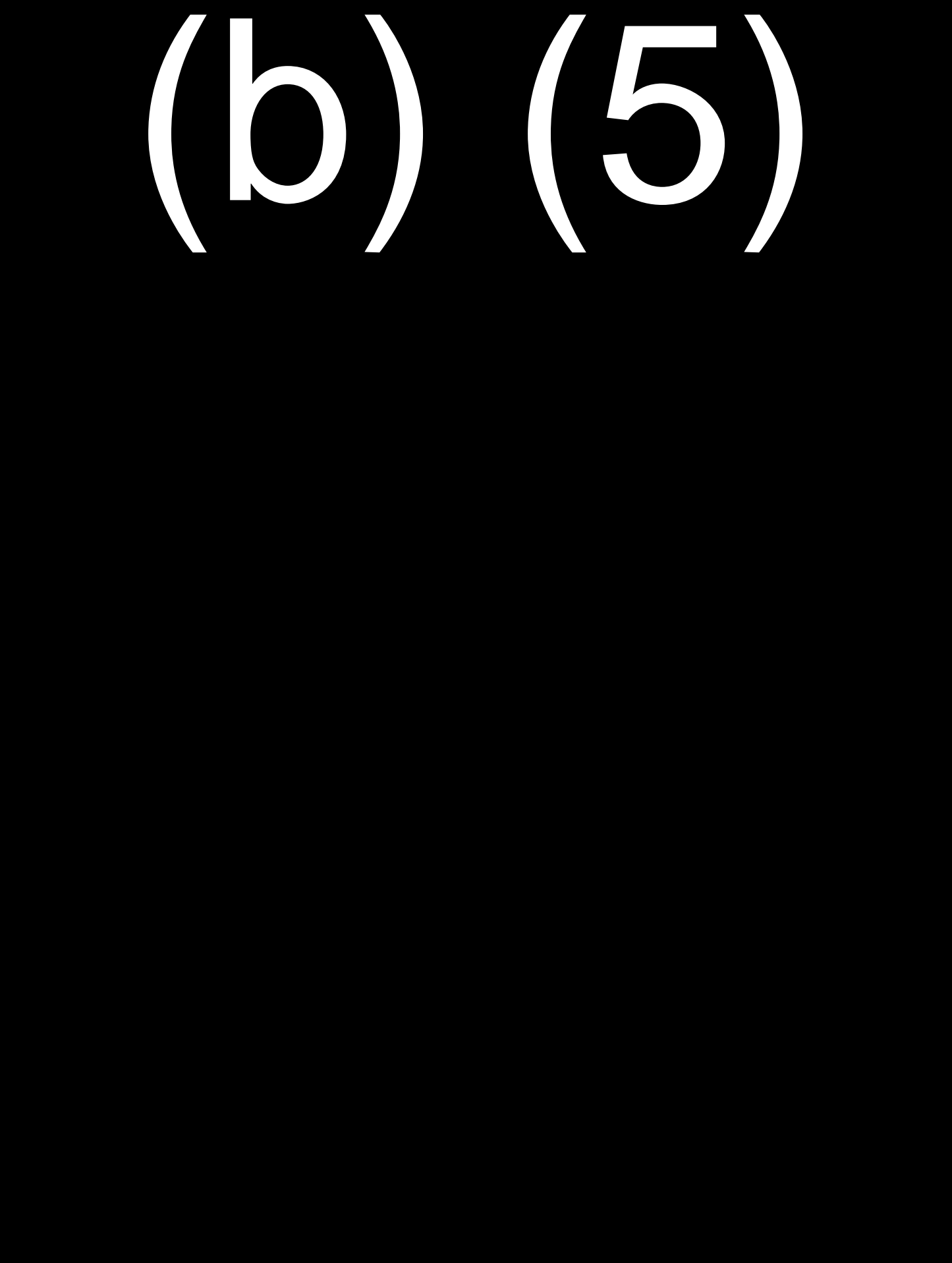
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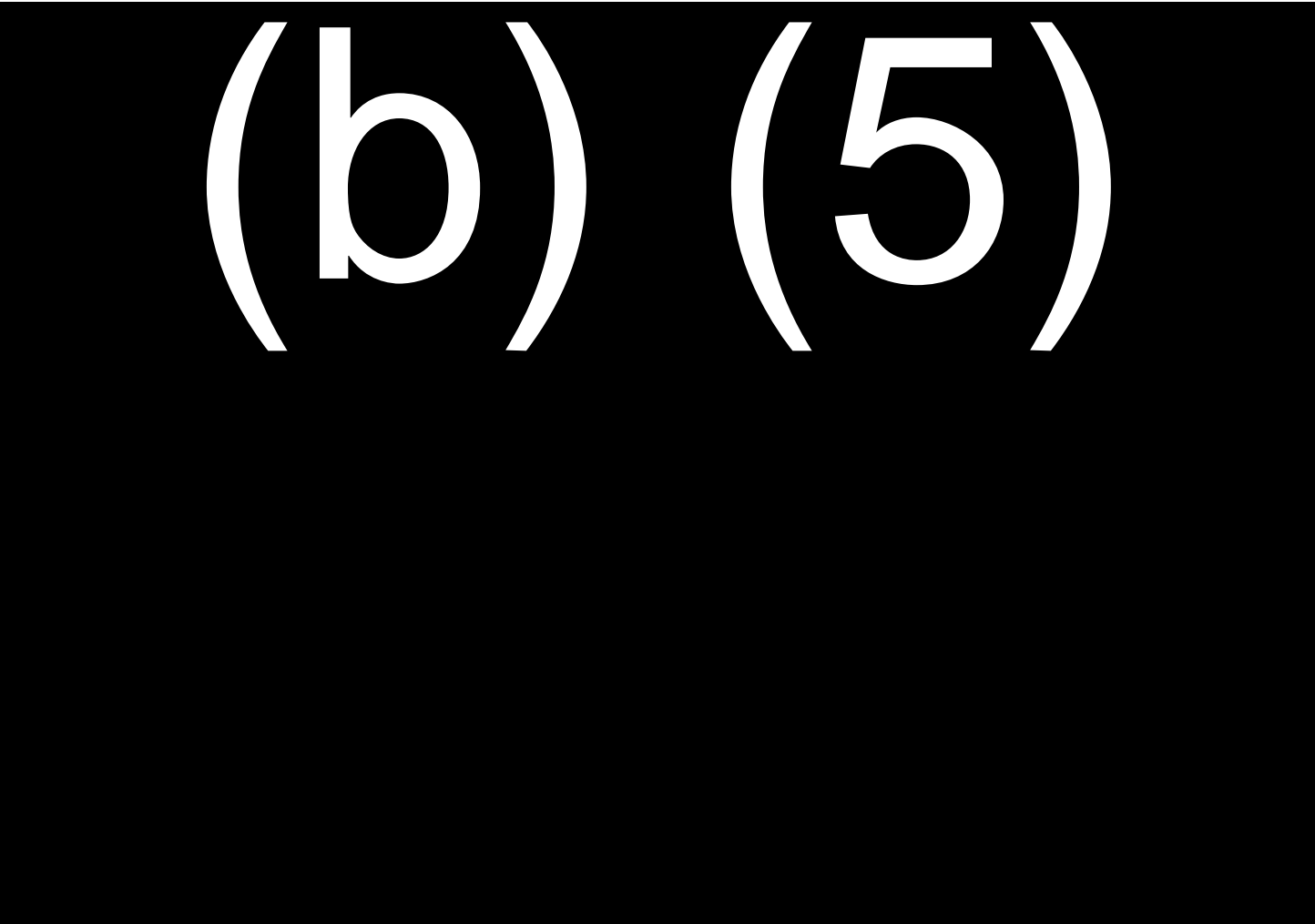
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(b) (5)



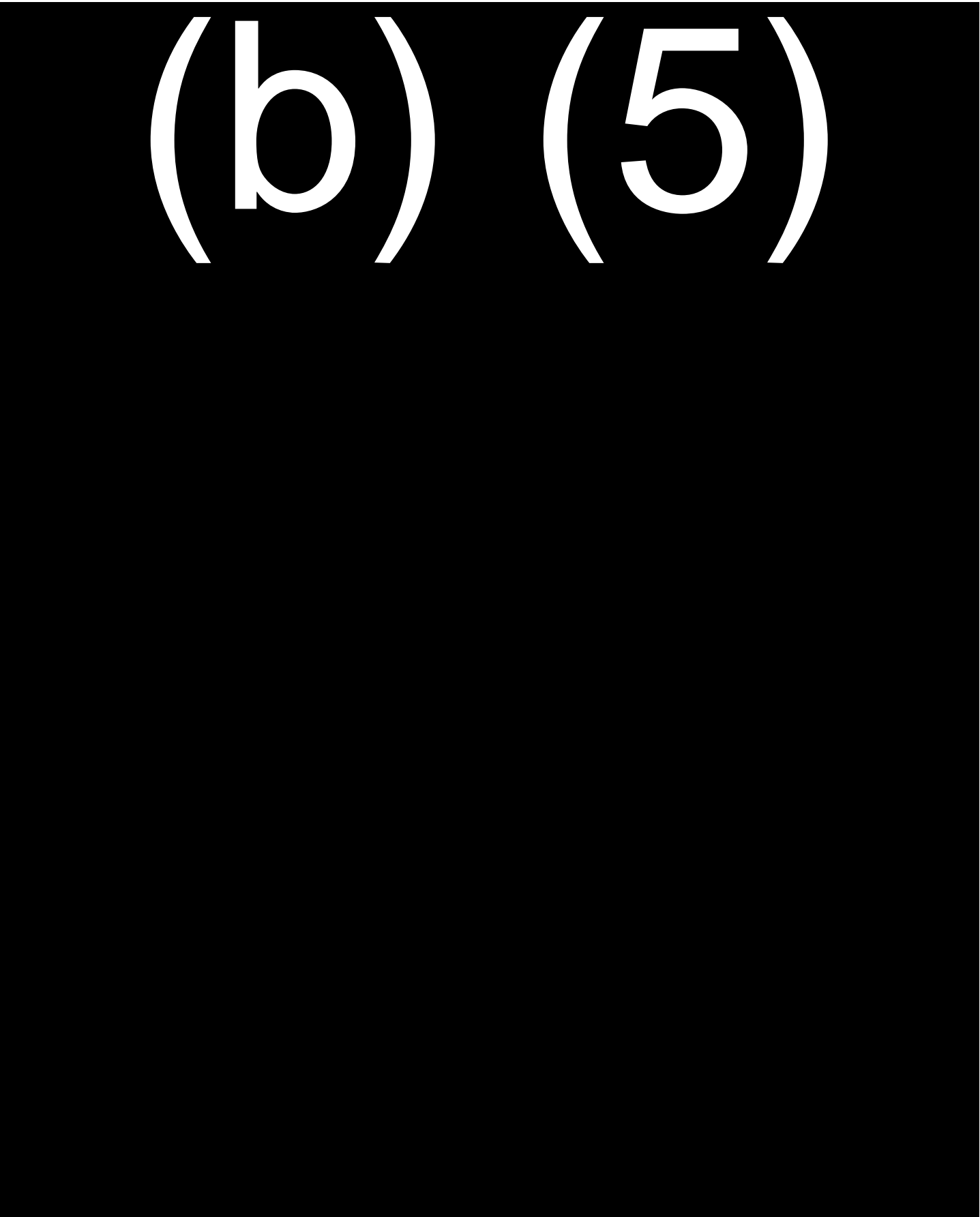
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(b) (5)

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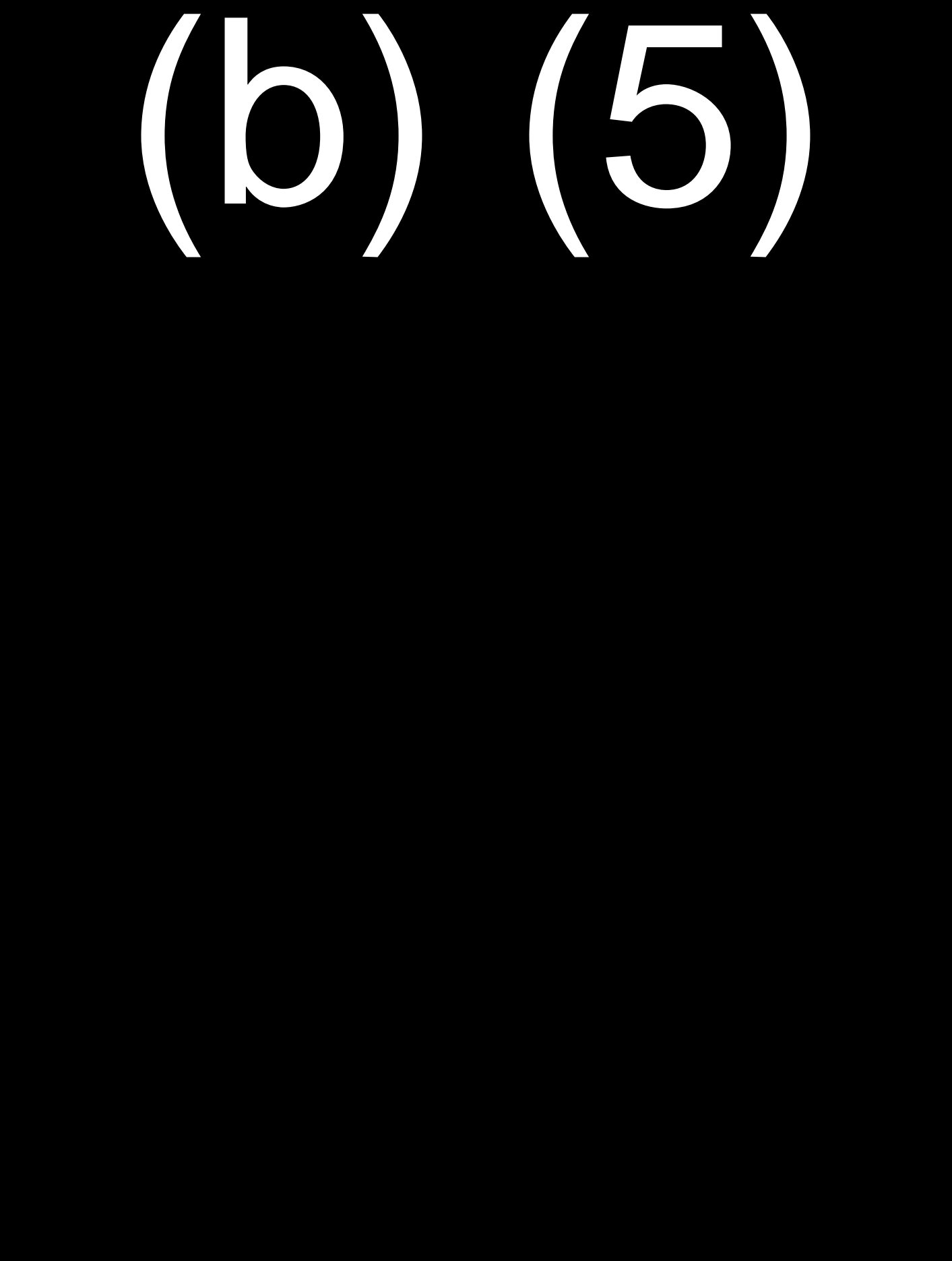
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(b) (5)

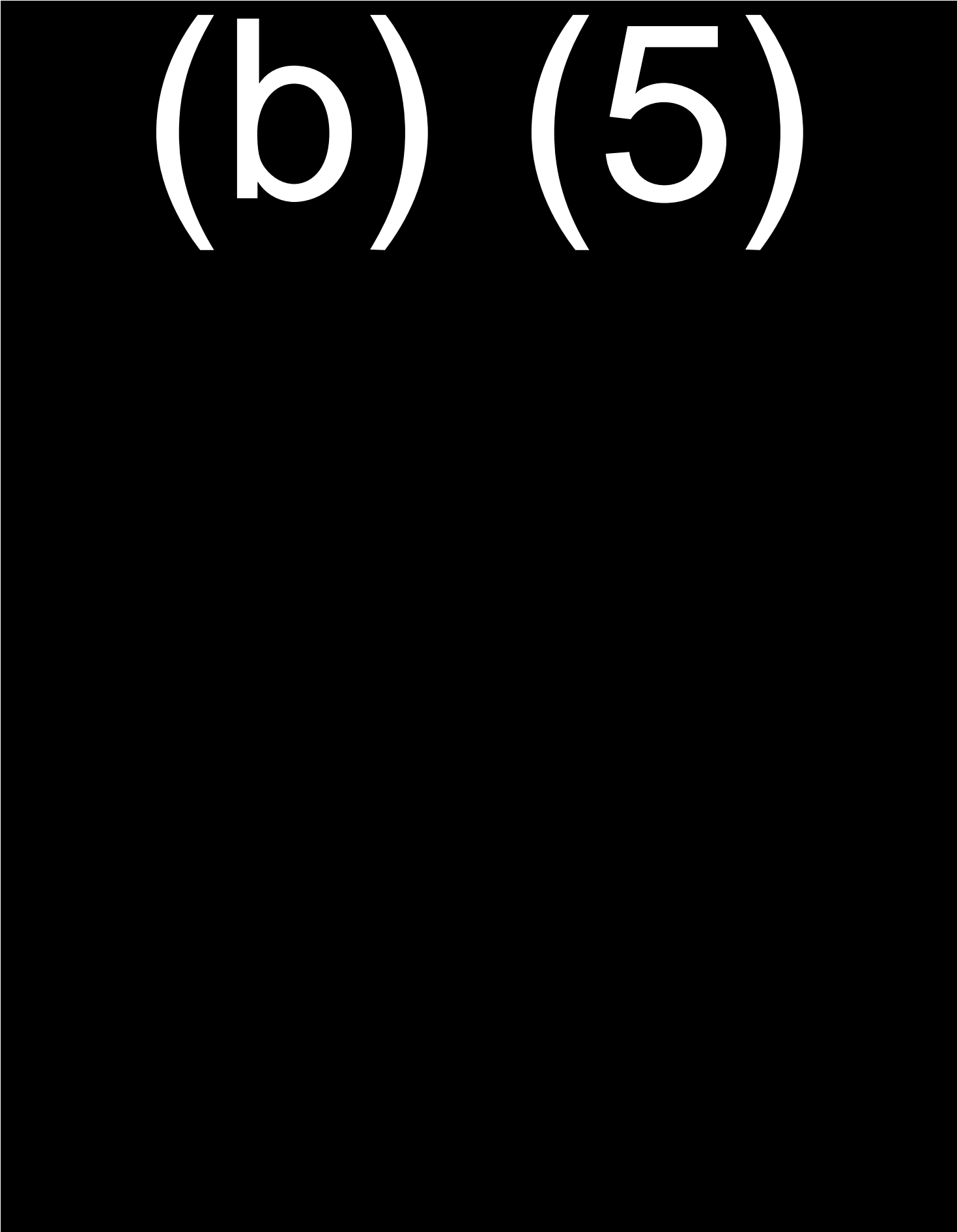
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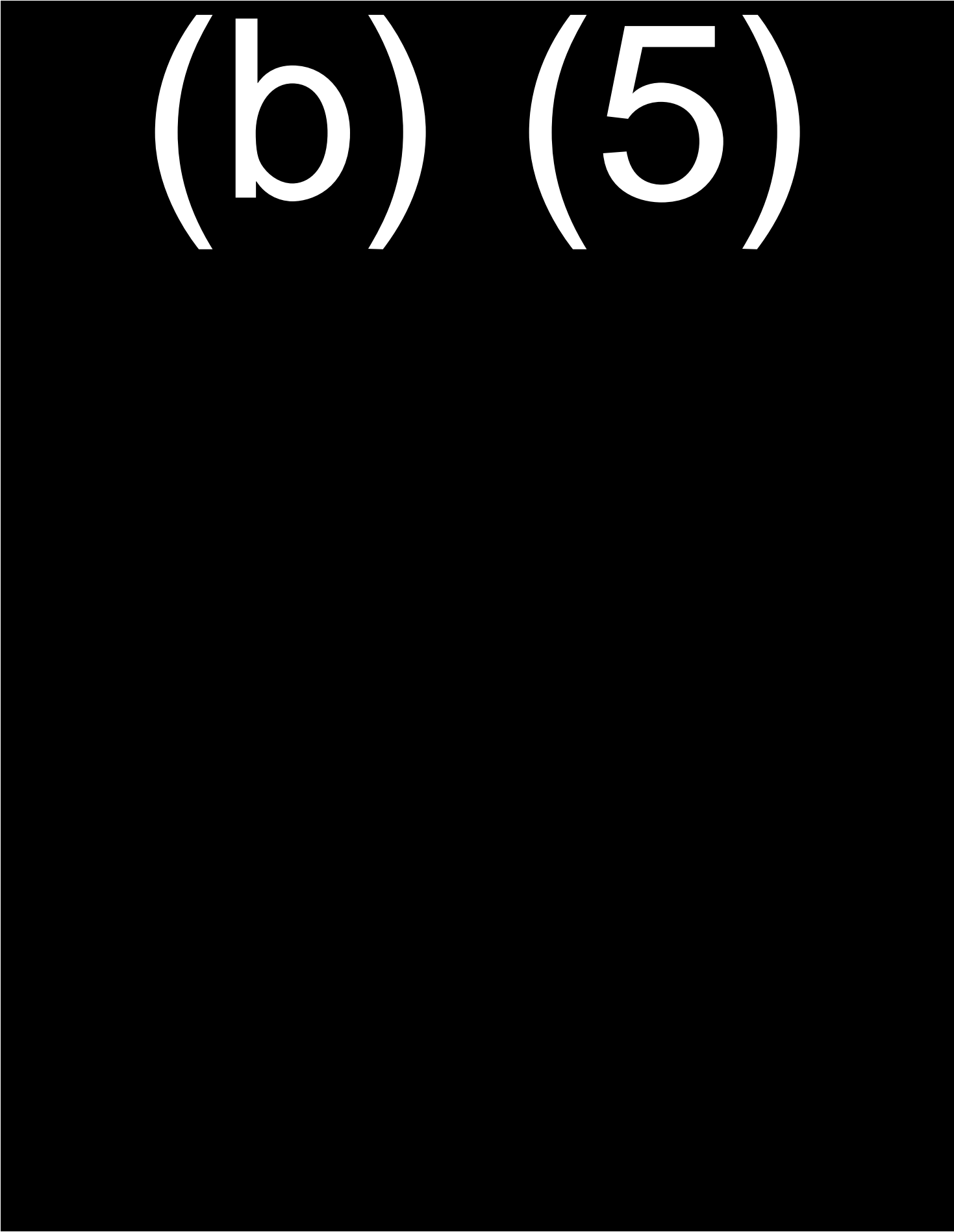
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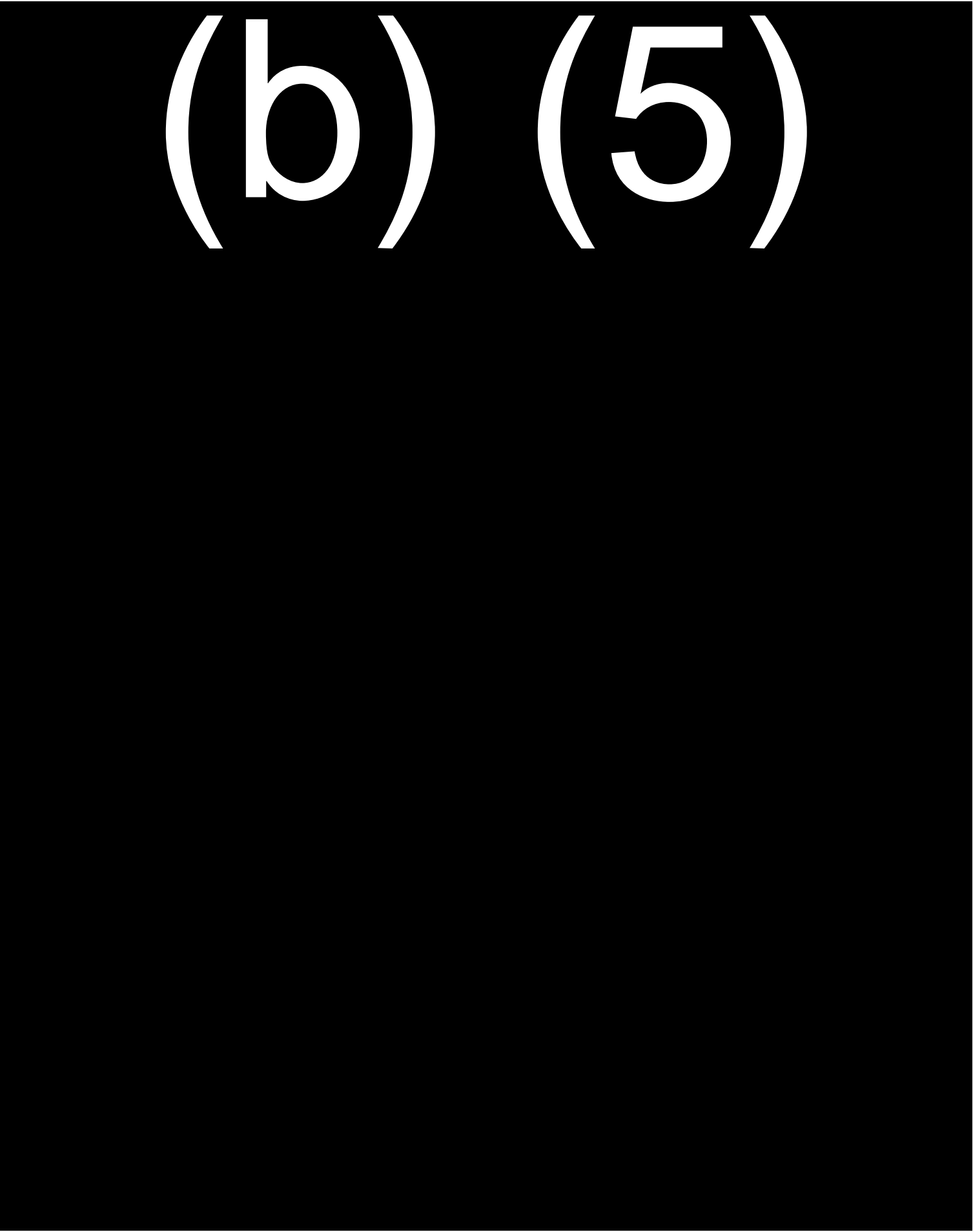
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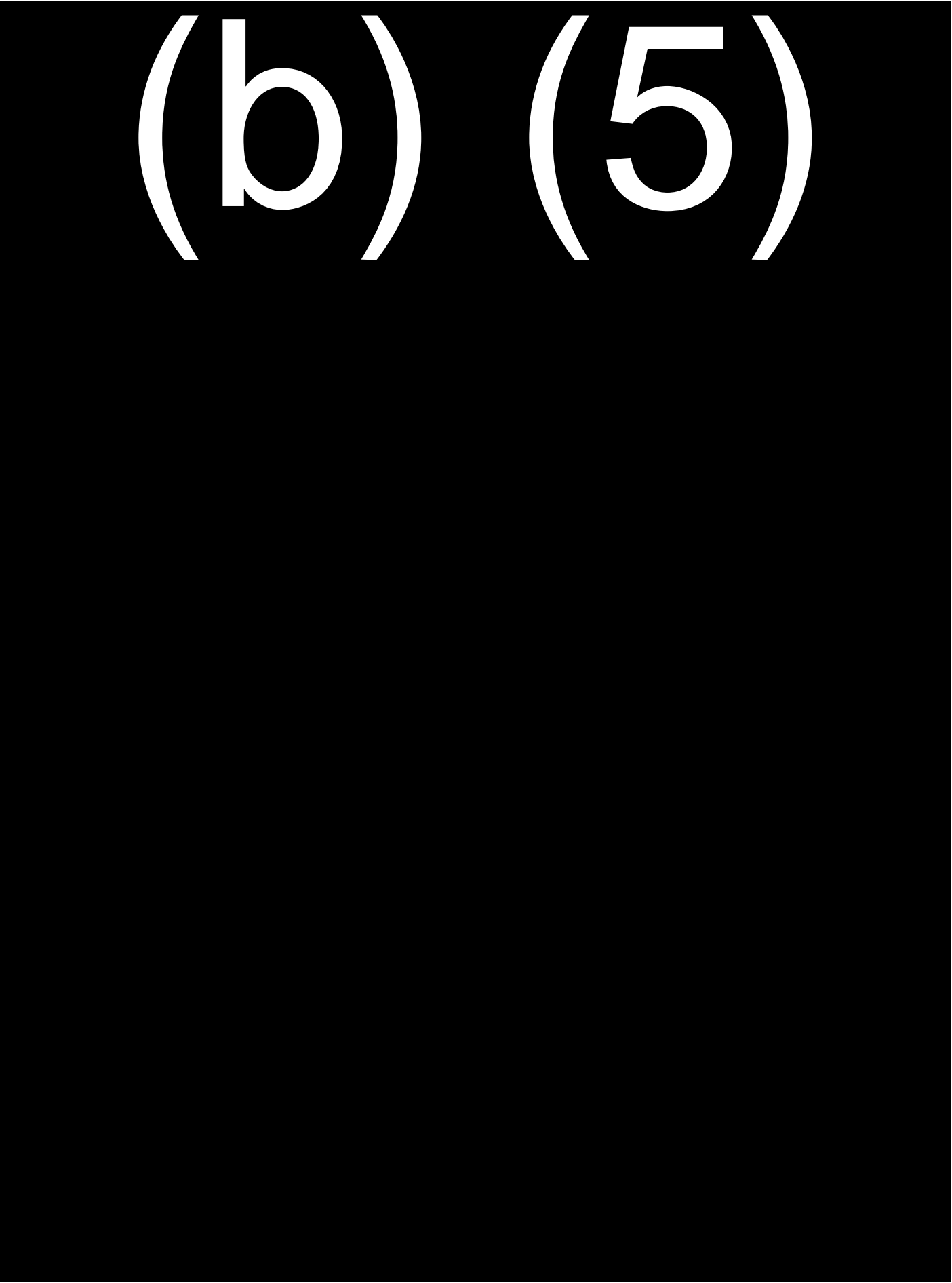
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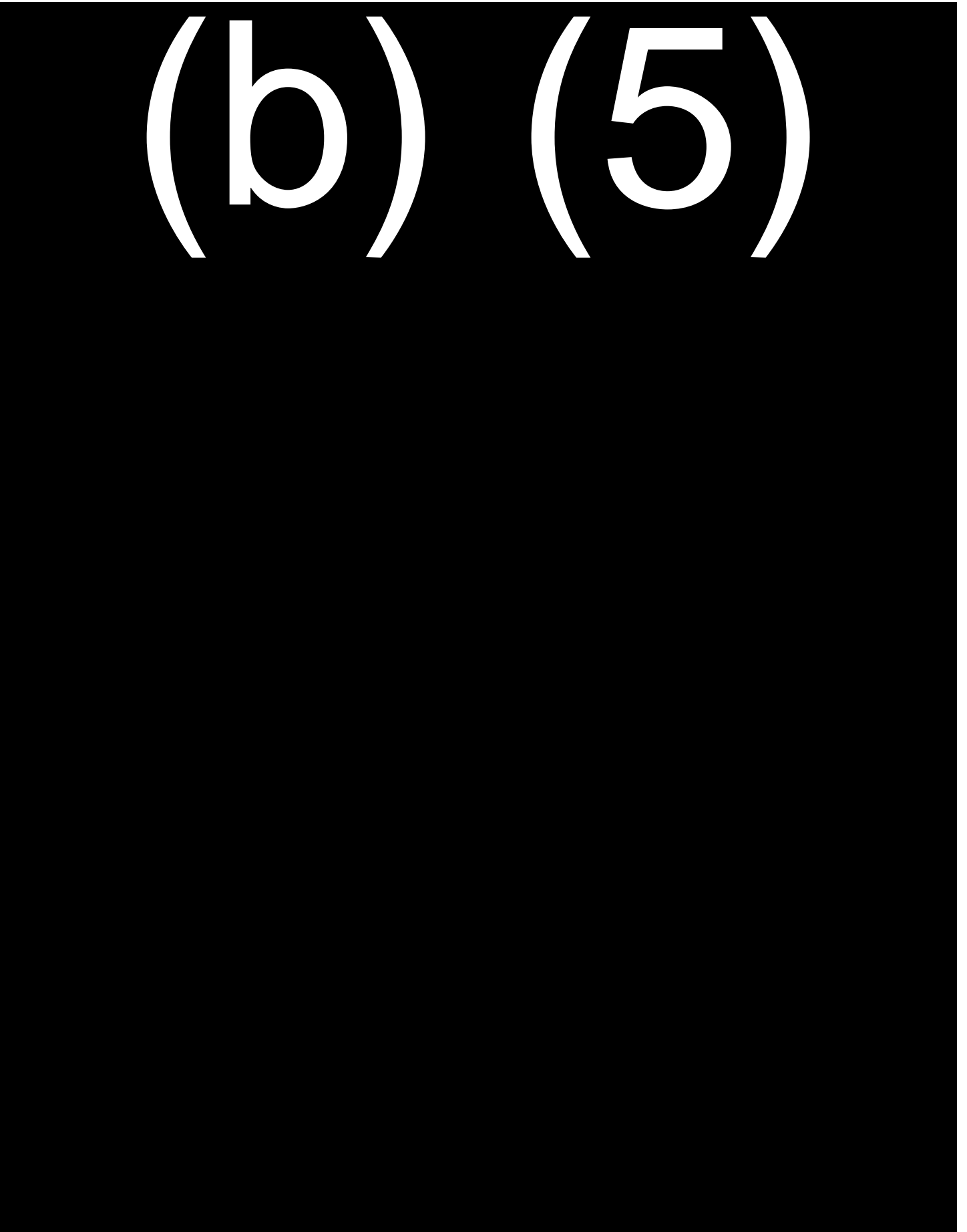


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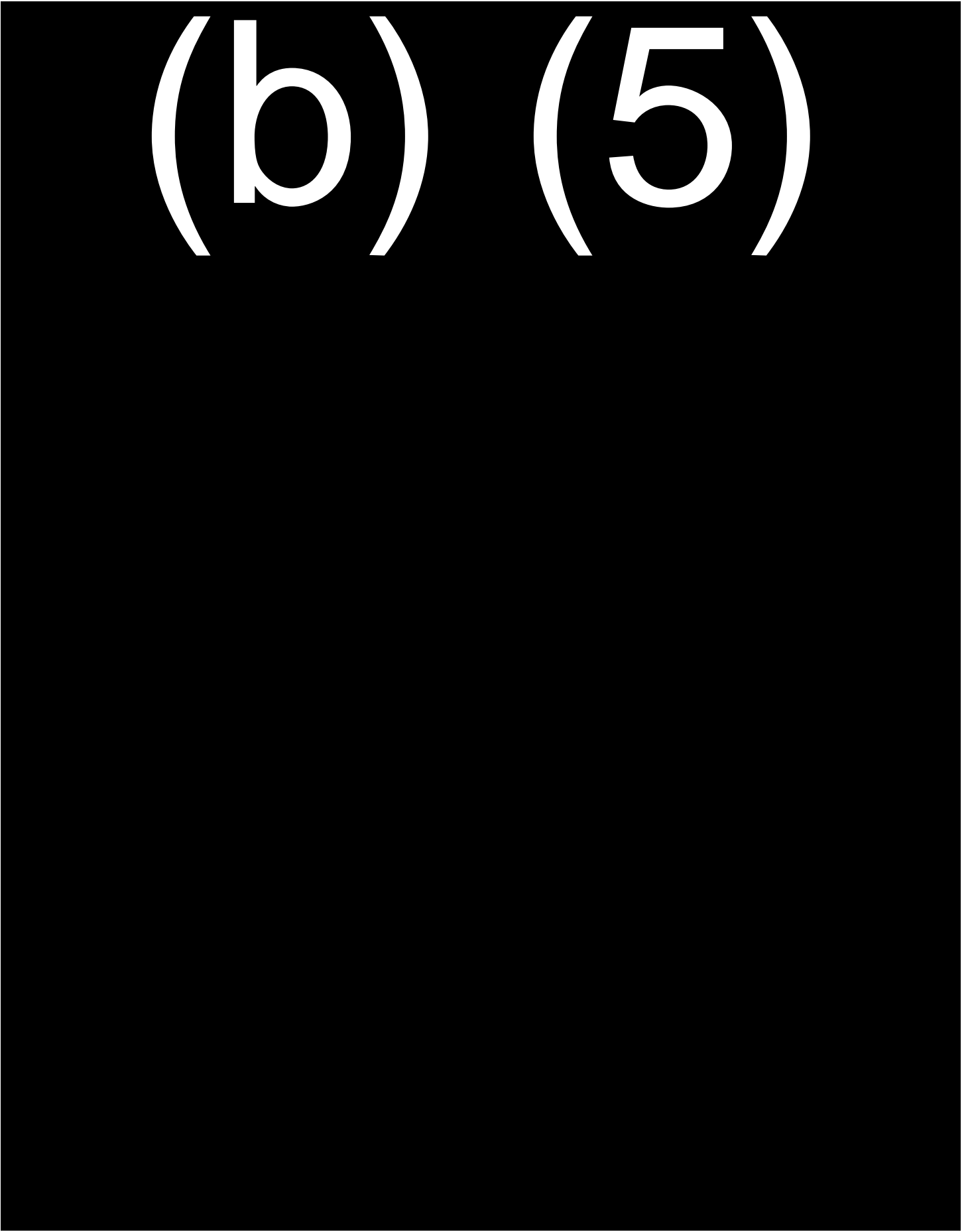
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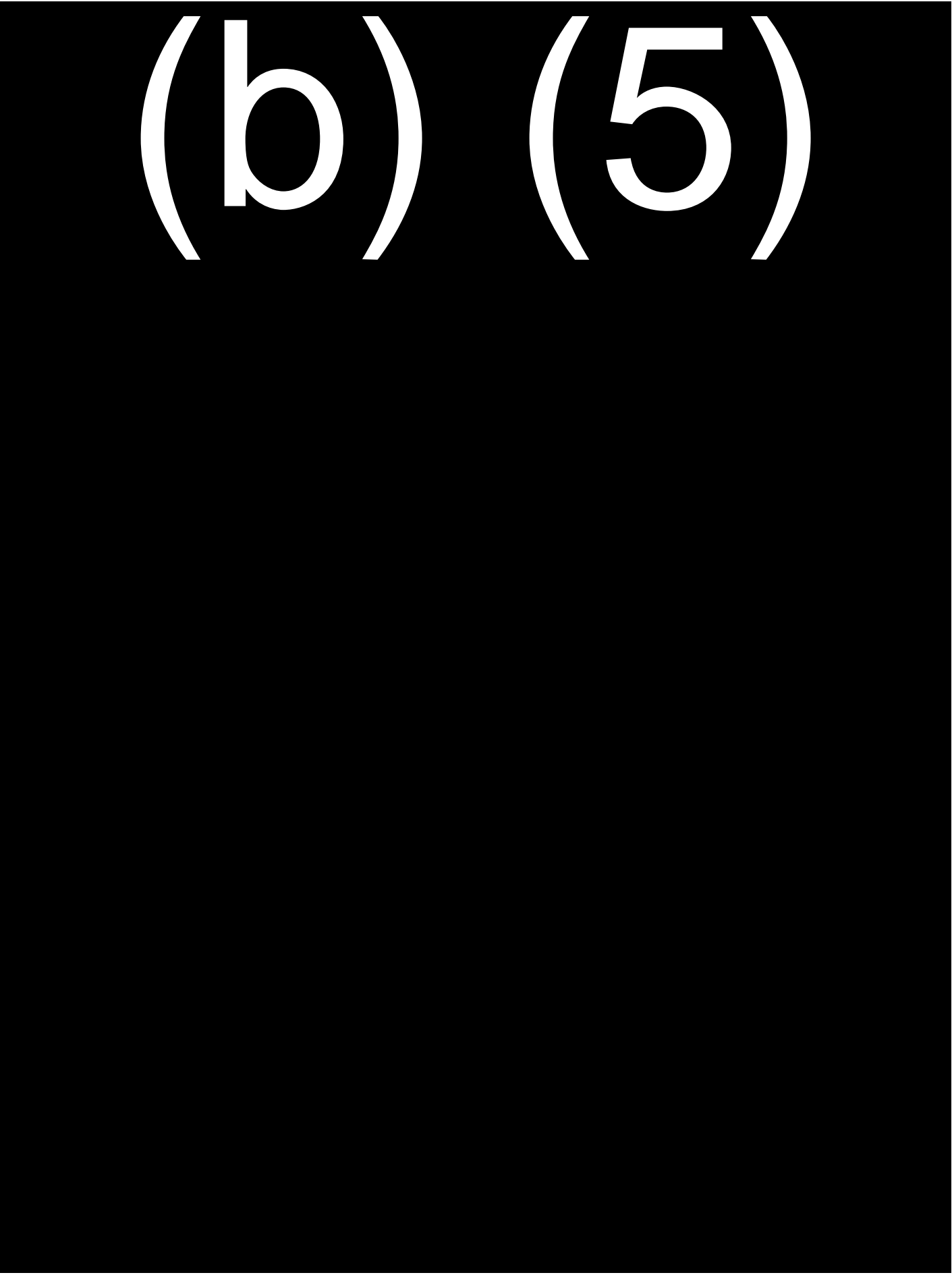


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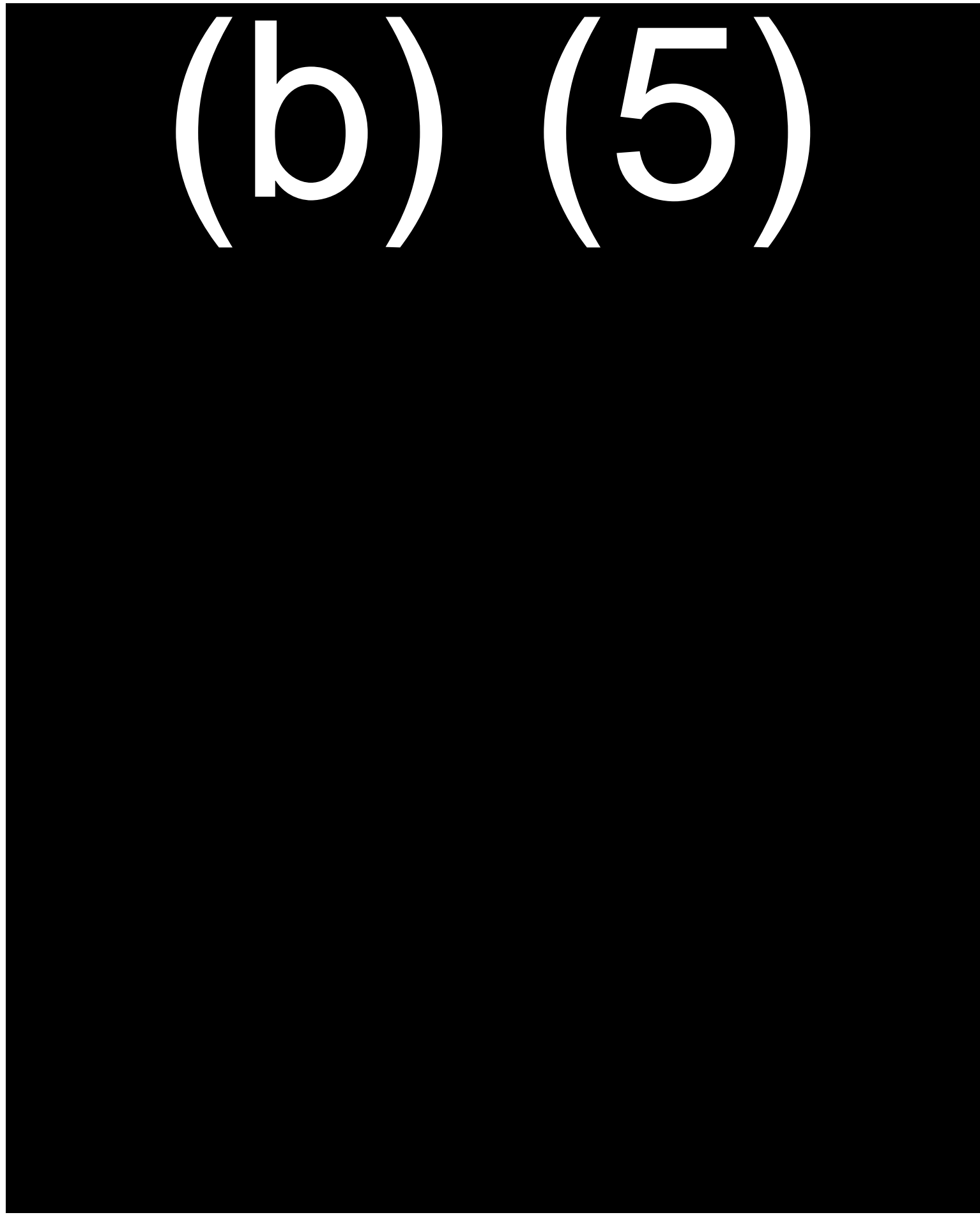


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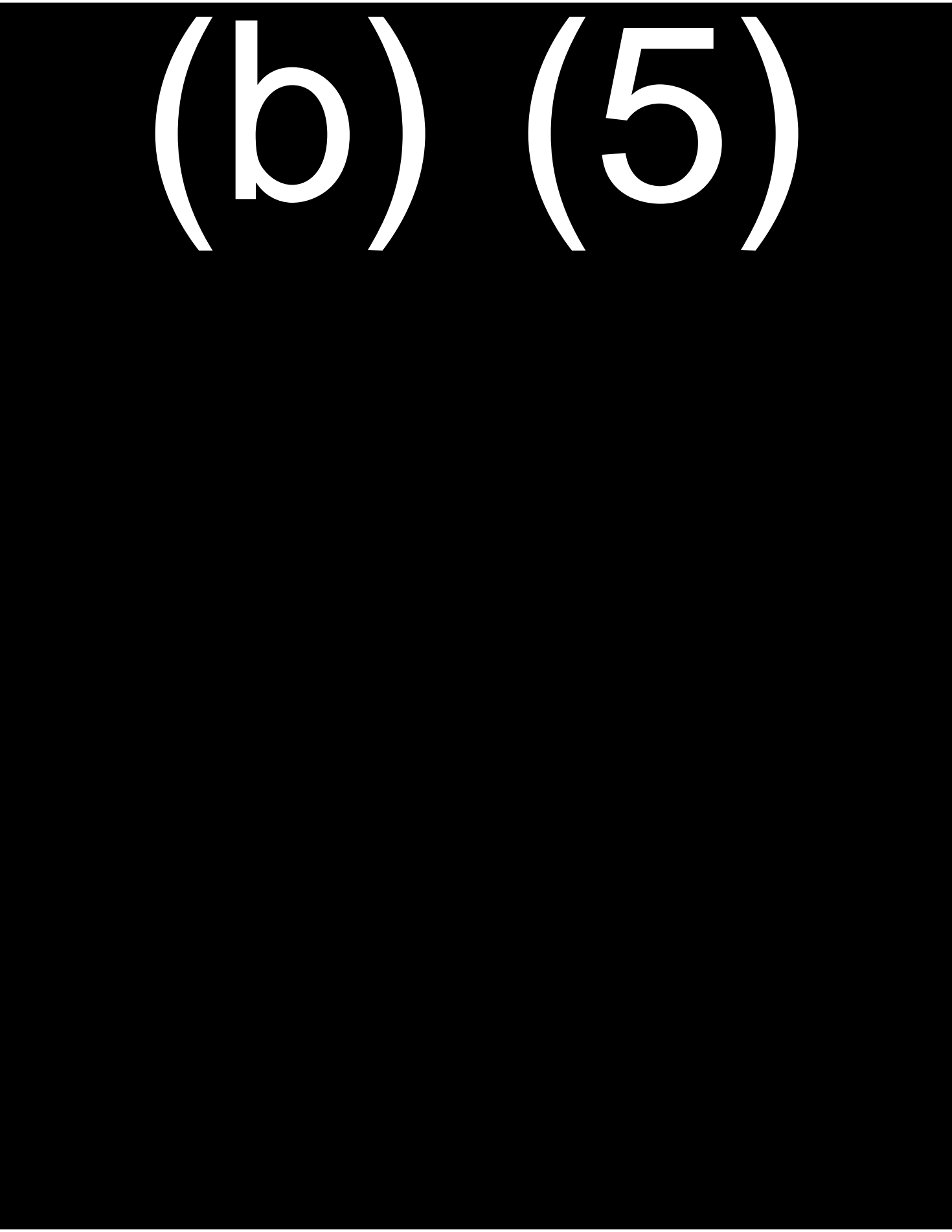


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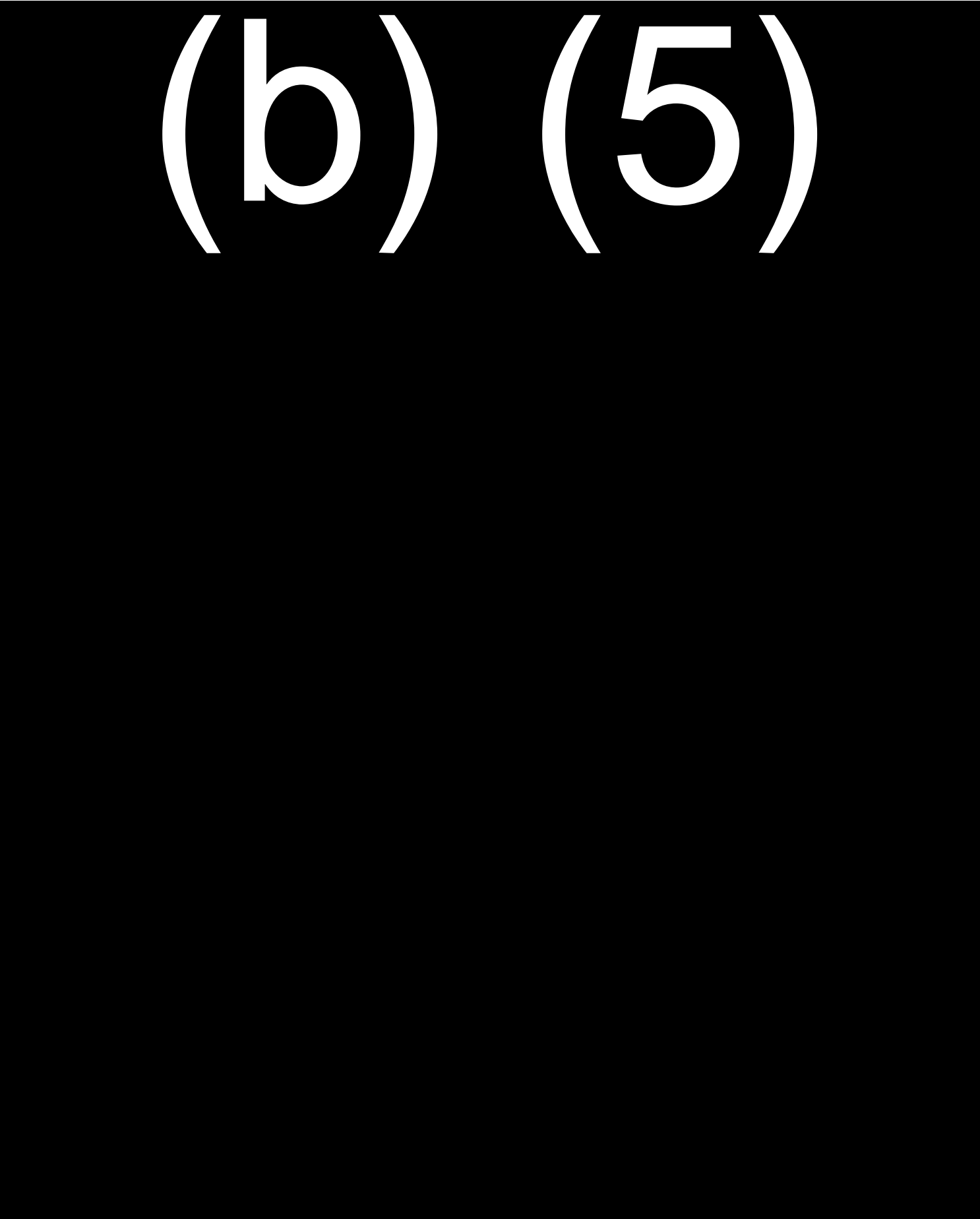


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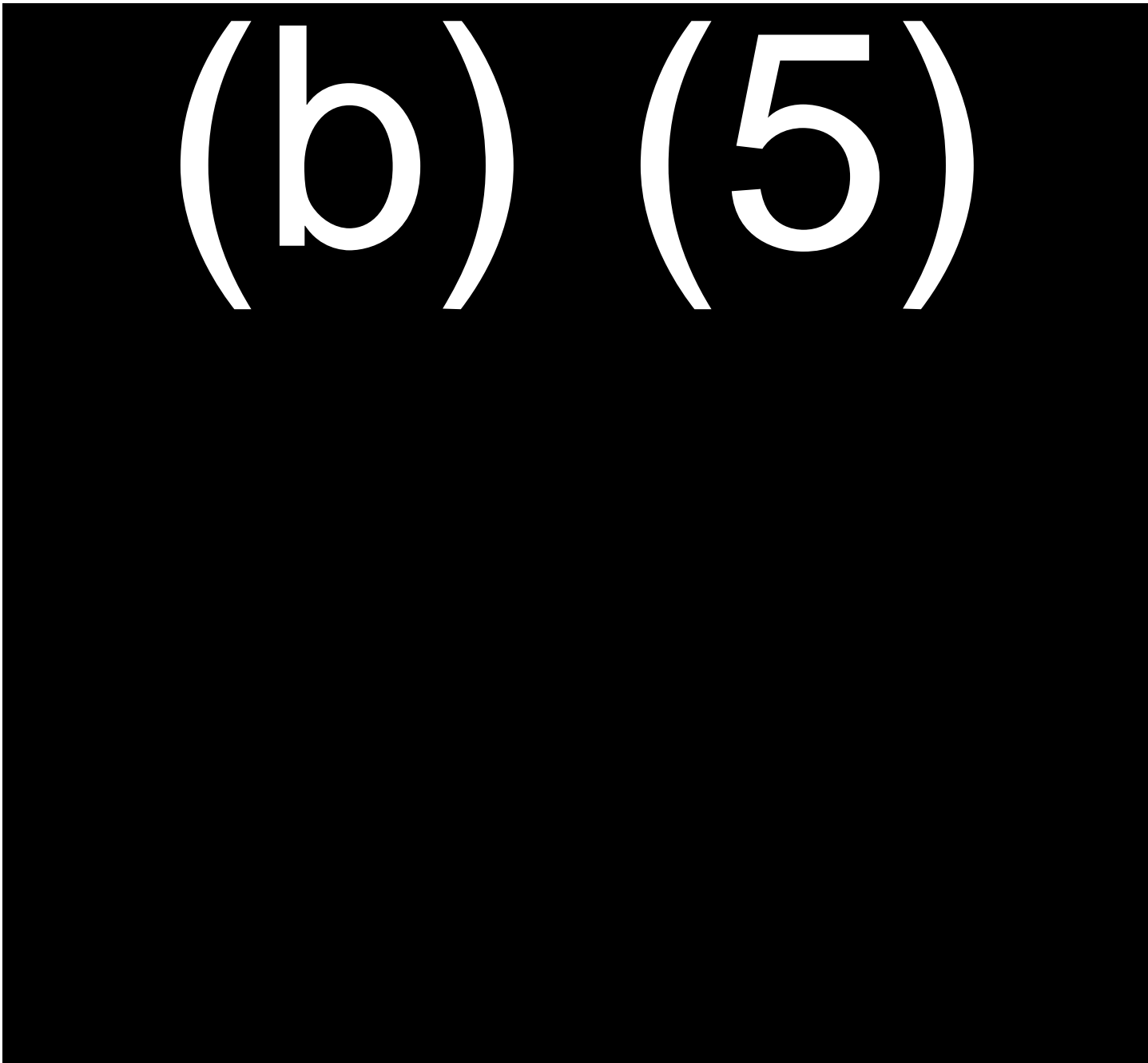
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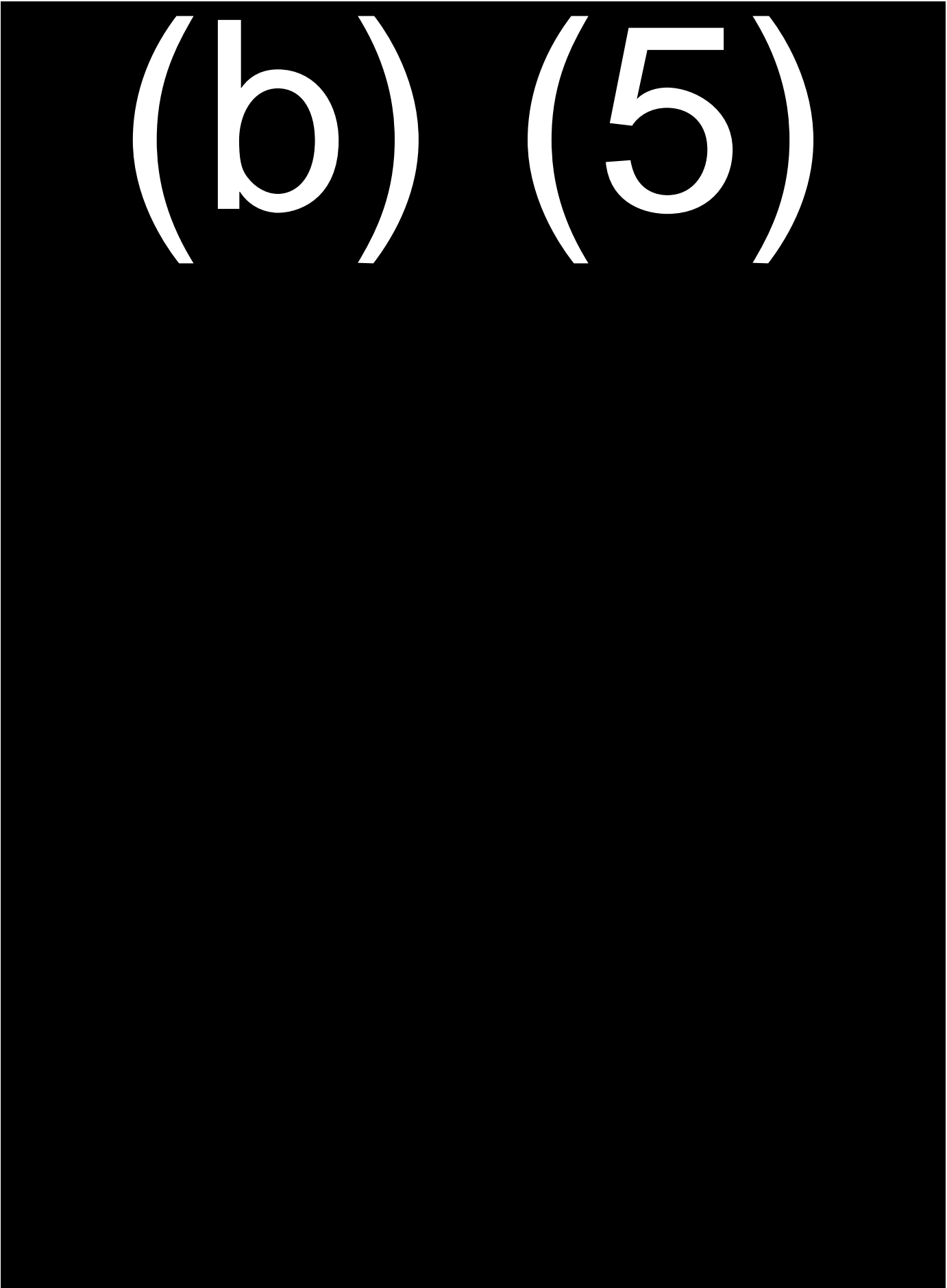
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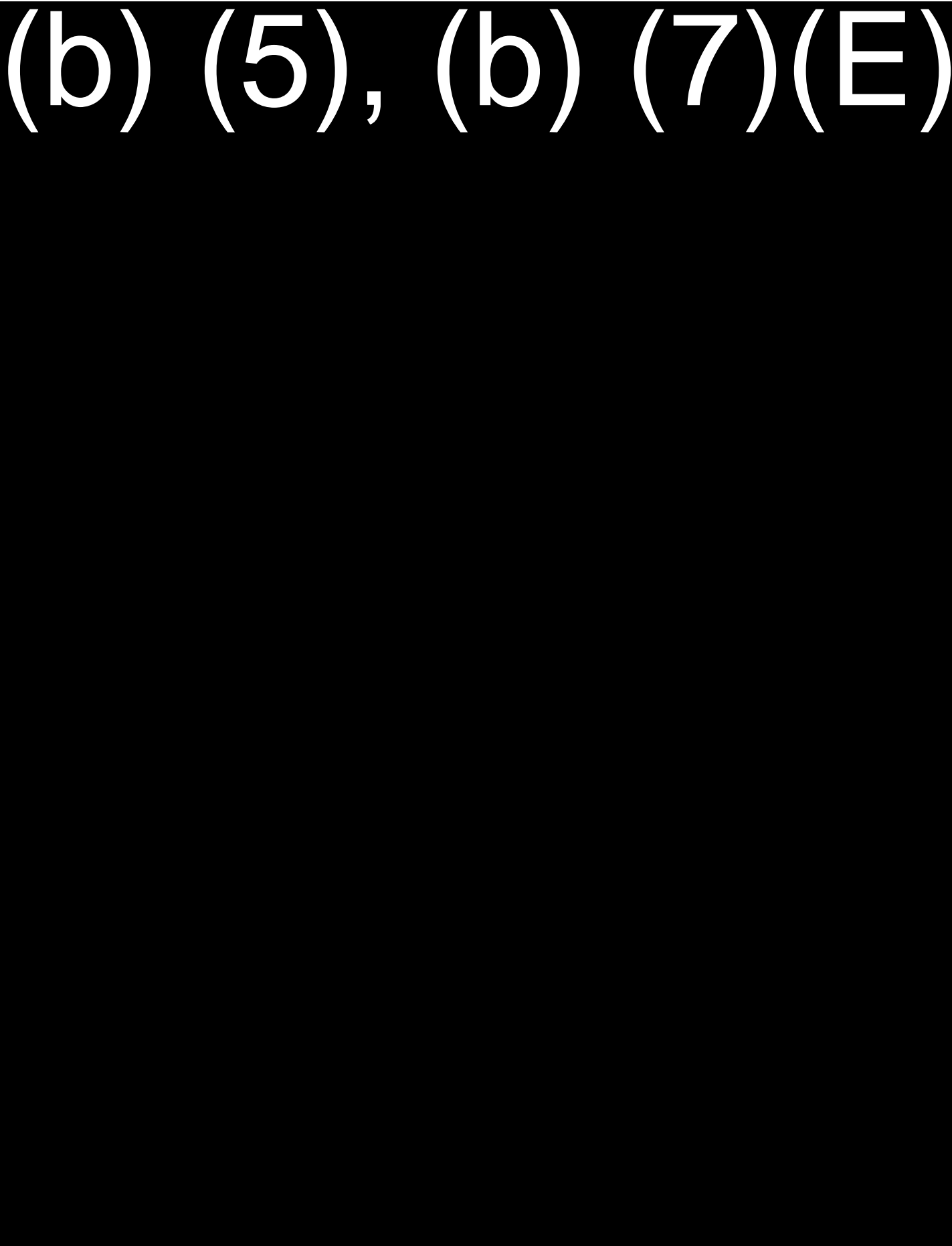
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(b) (5), (b) (7)(E)




(b) (5)

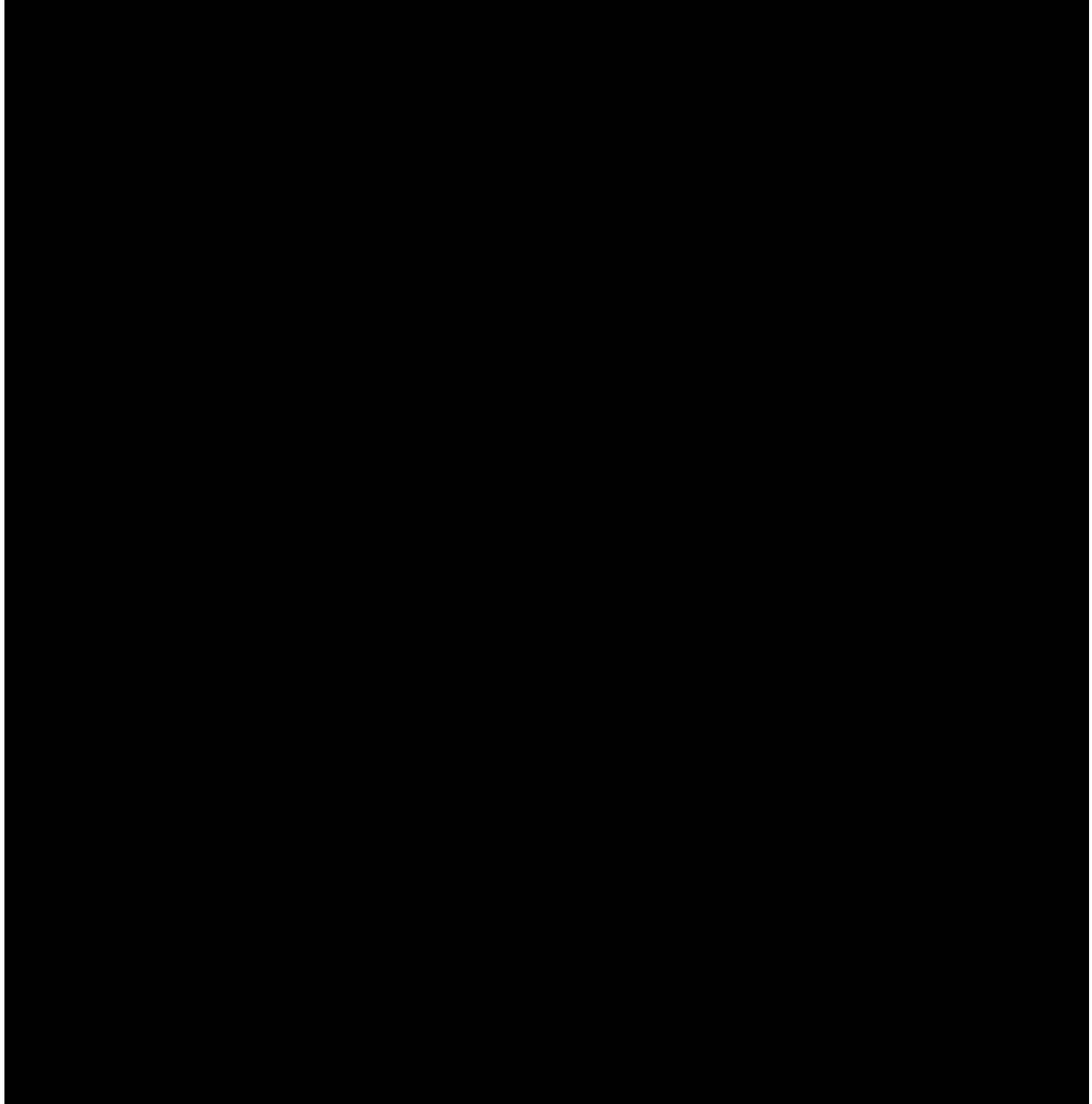
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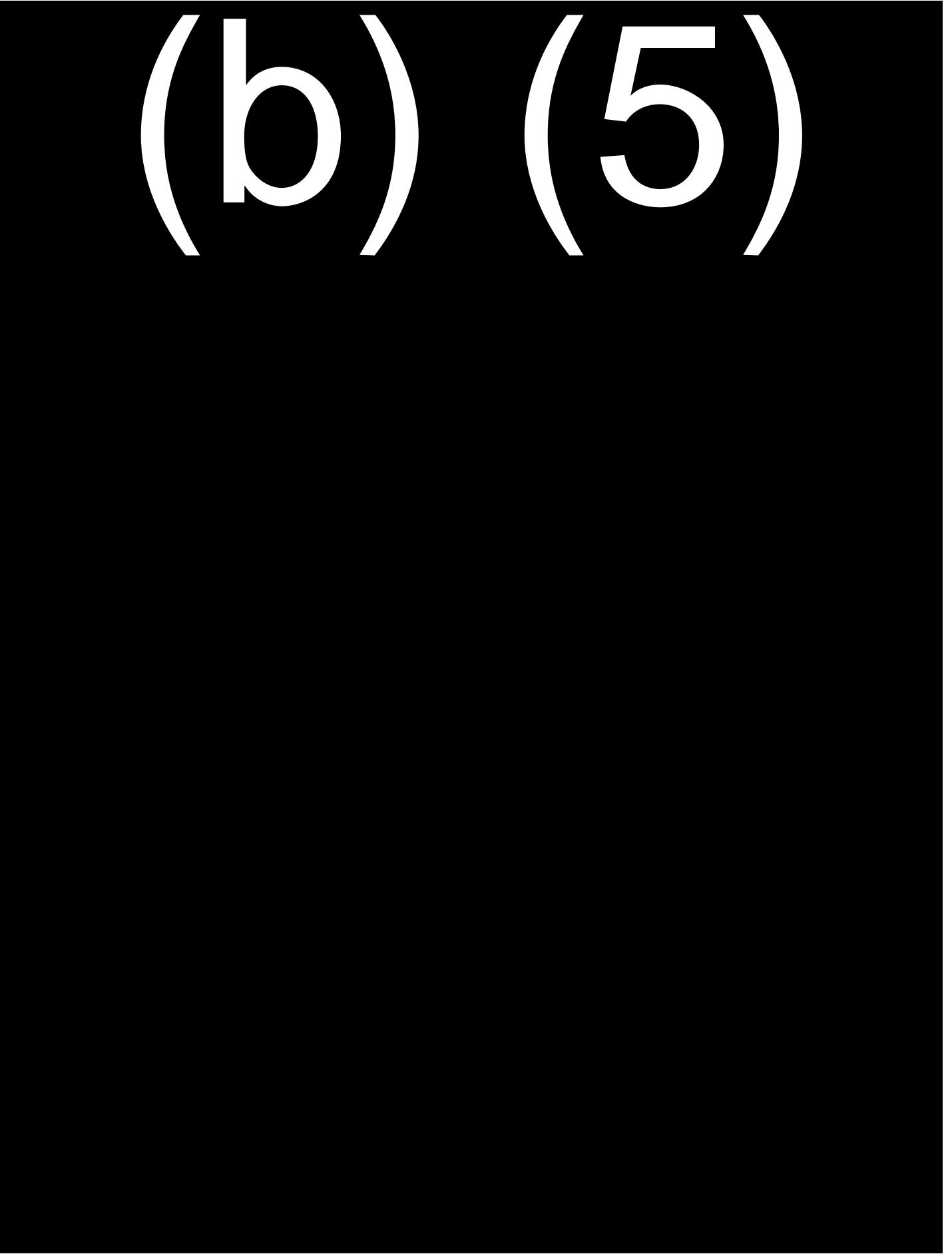
(b) (5), (b) (7)(E)



(b) (5)



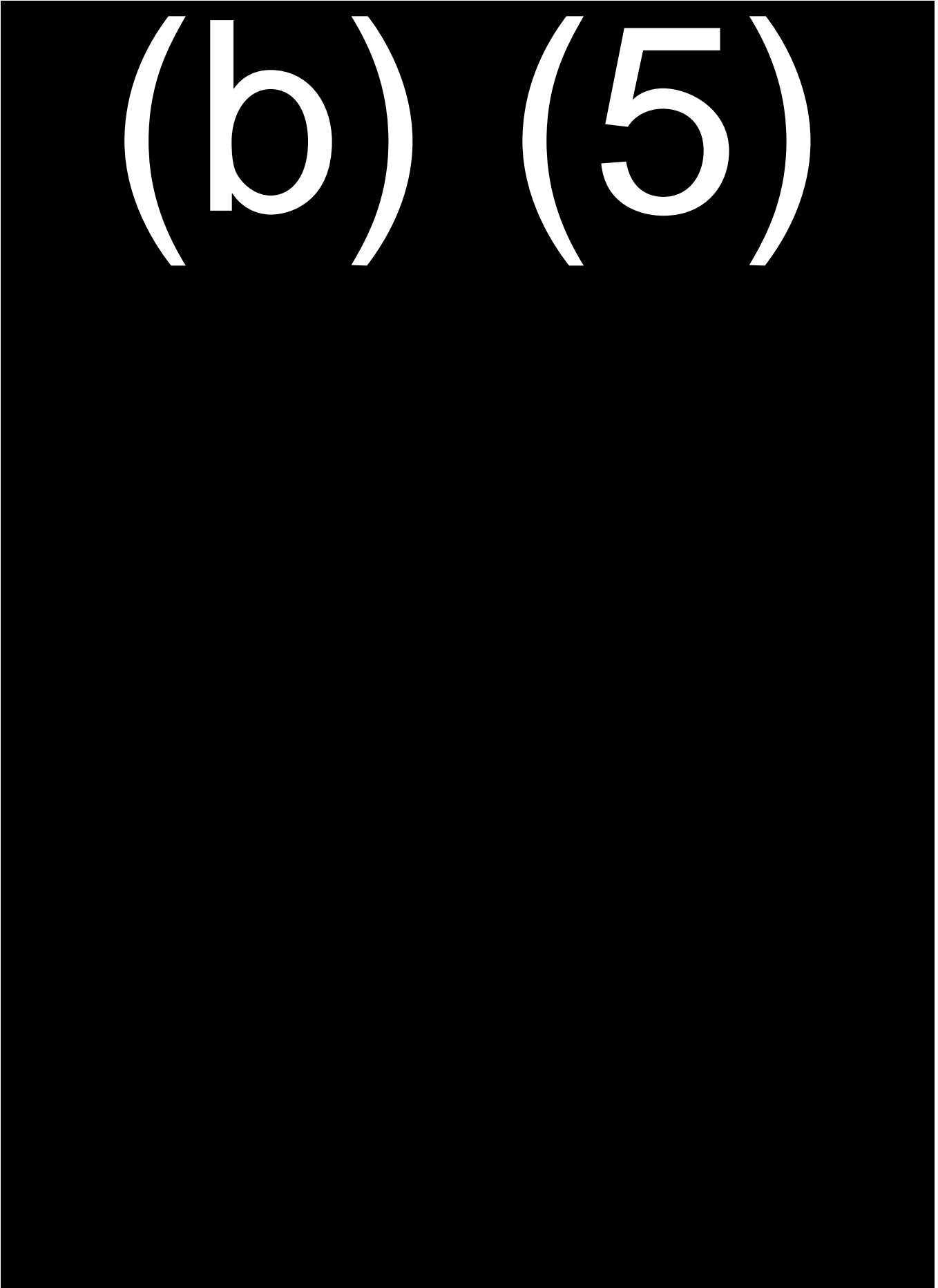
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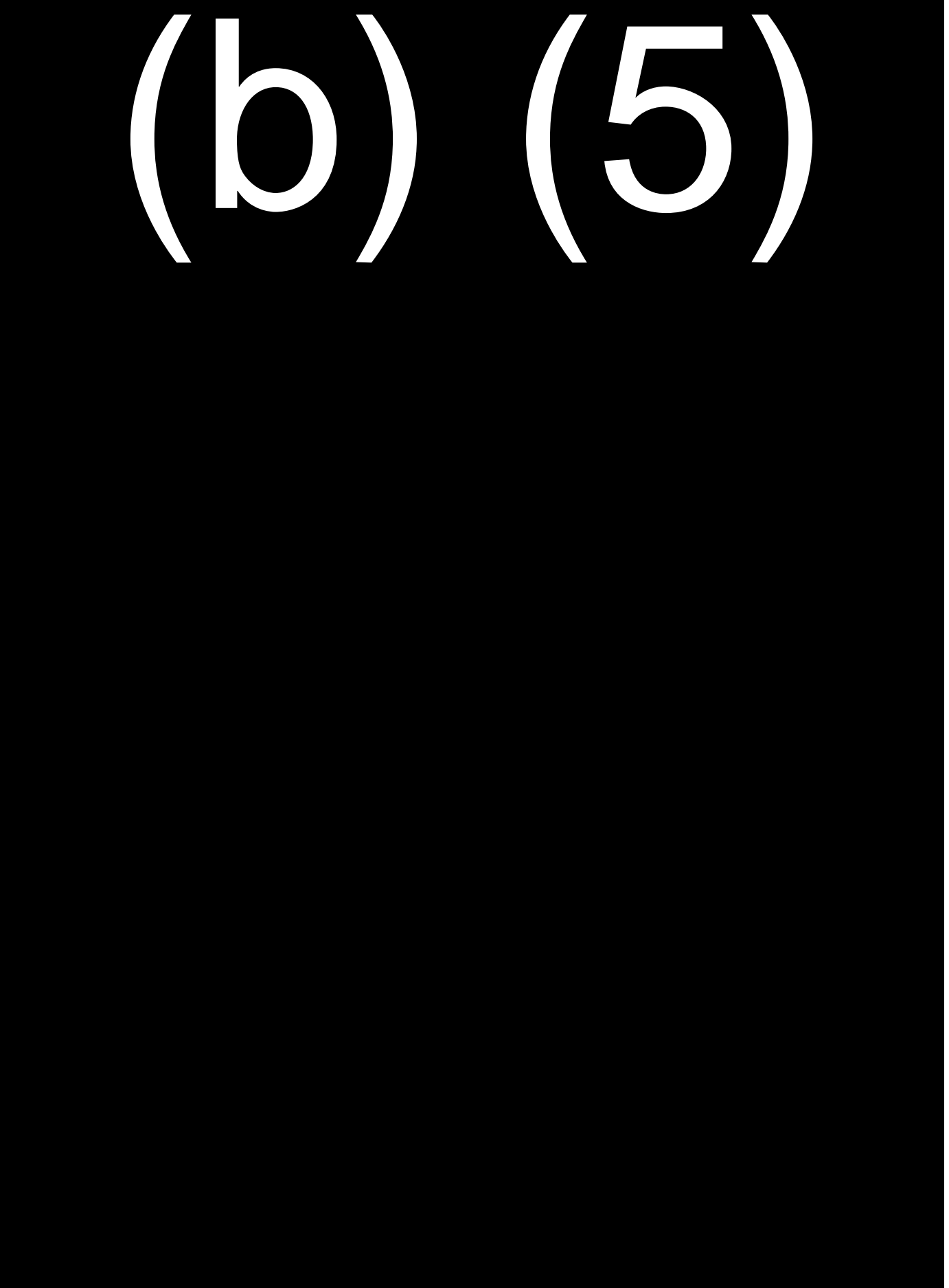
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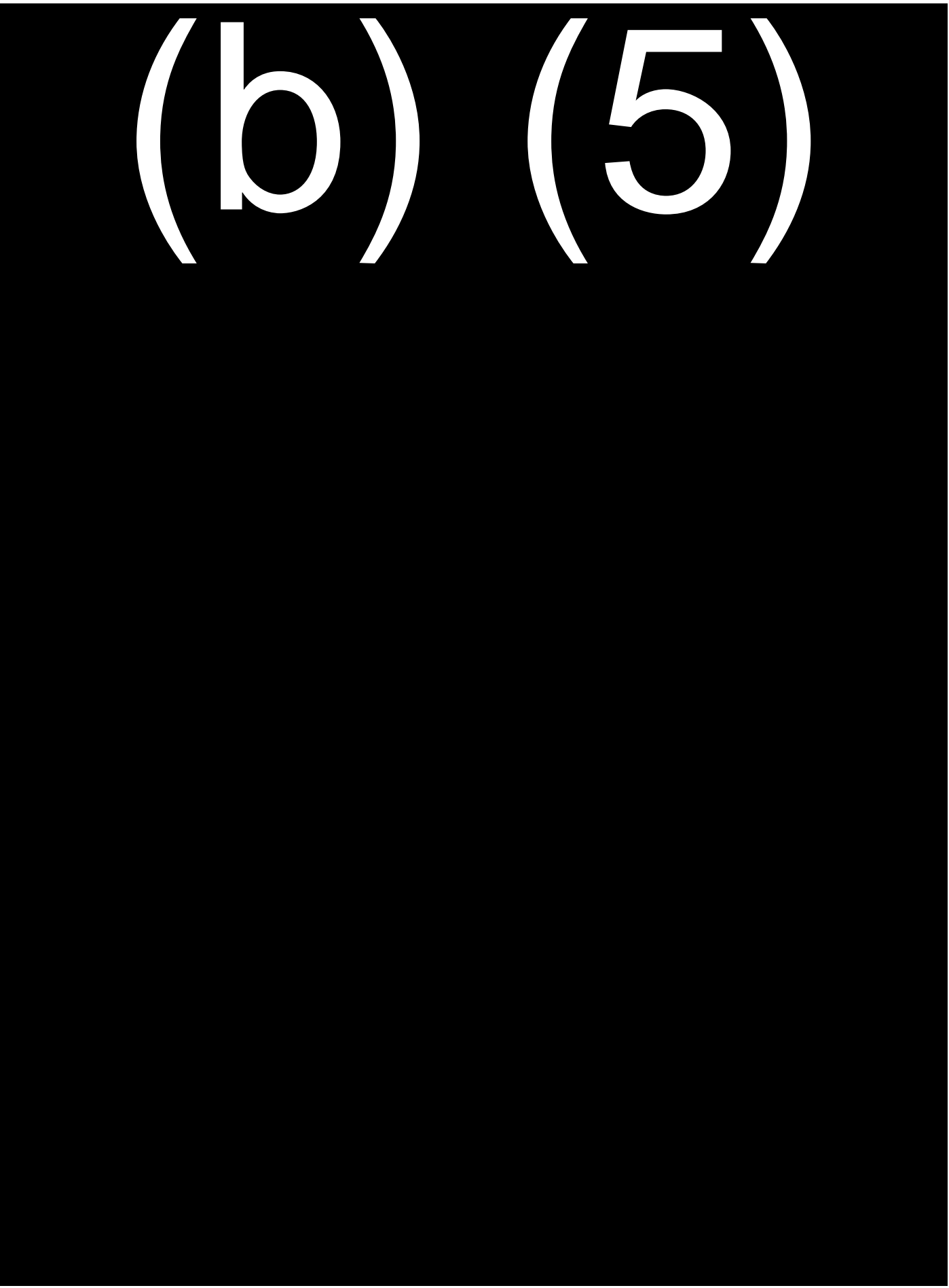
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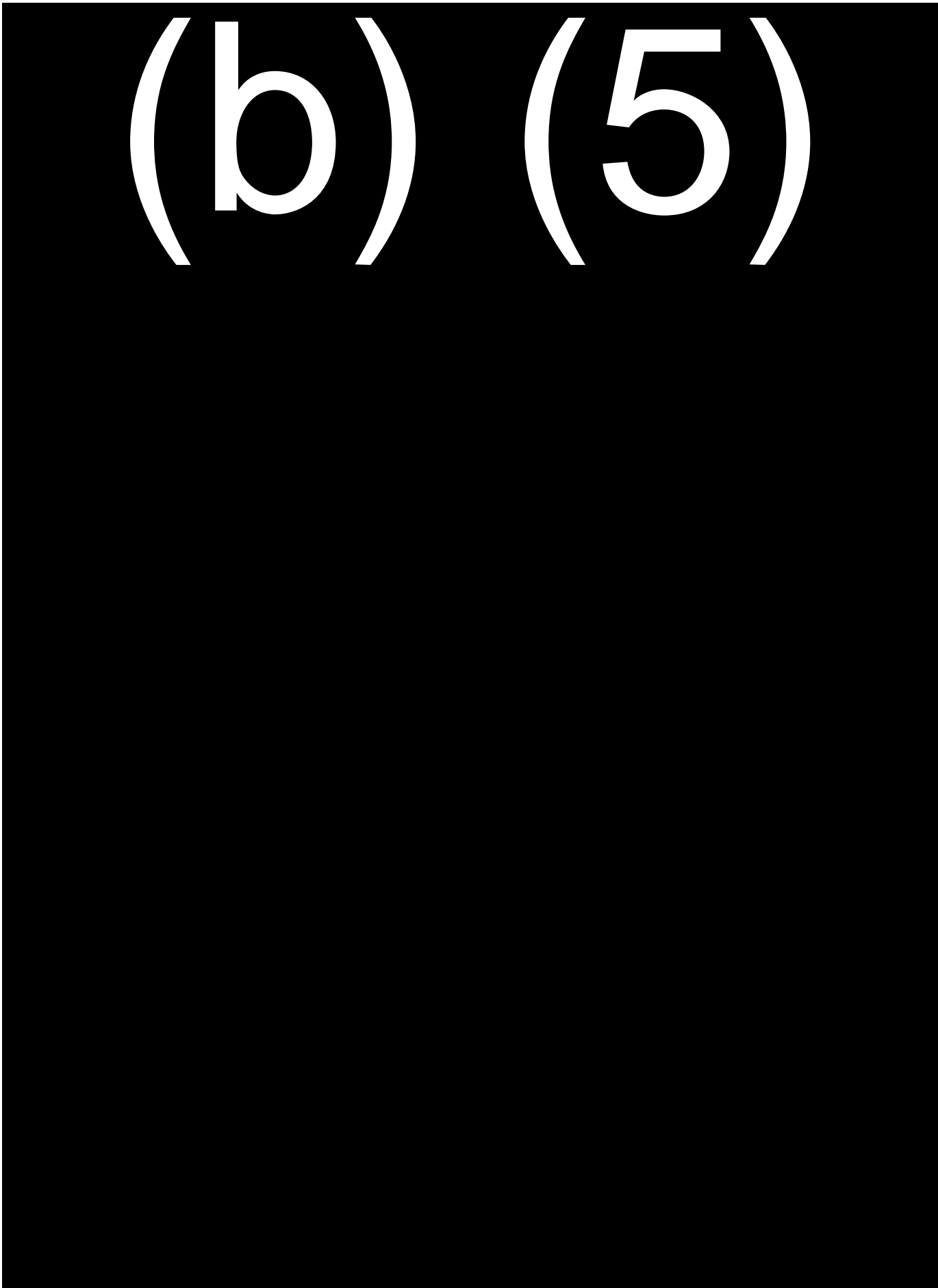
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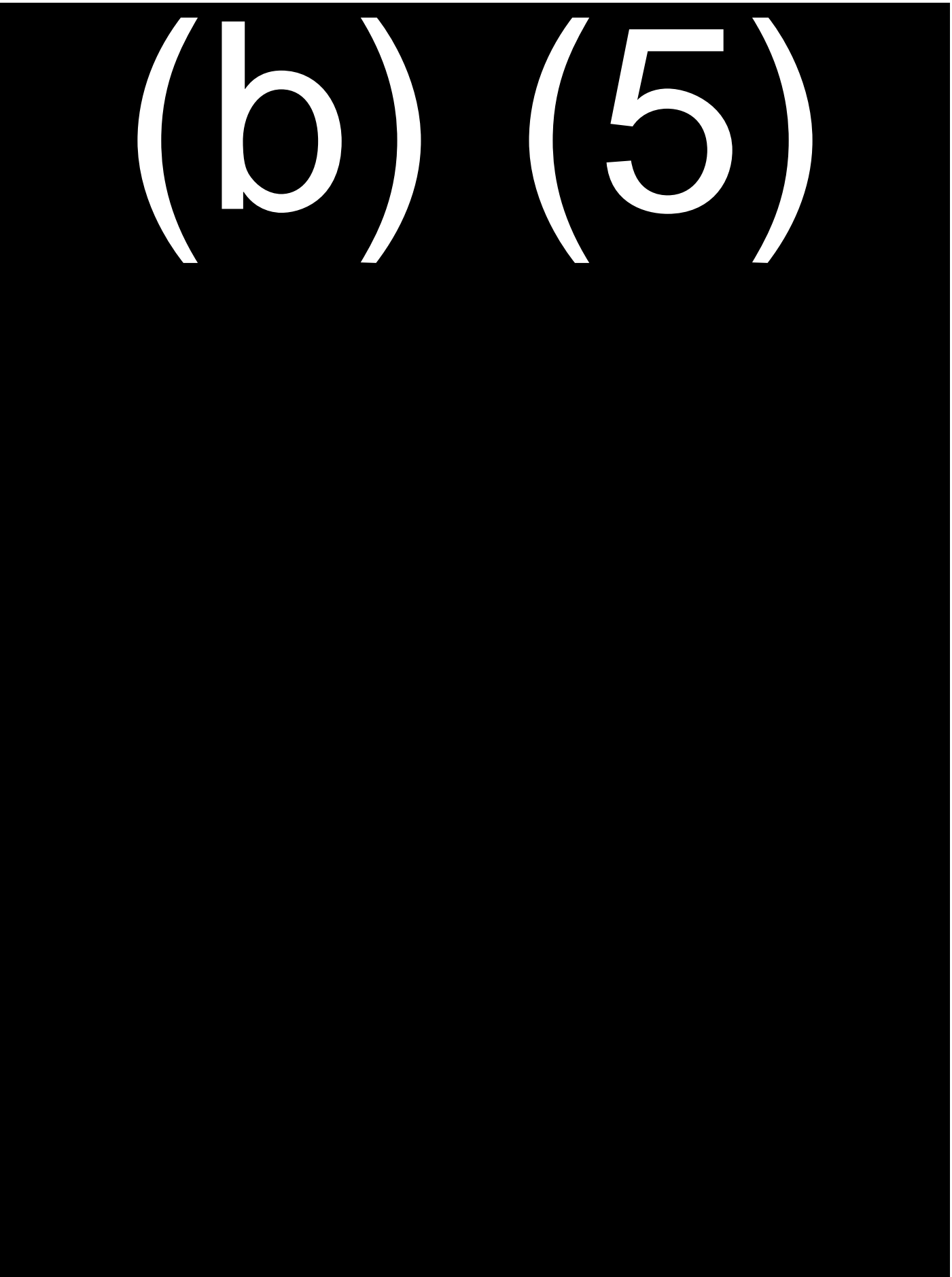
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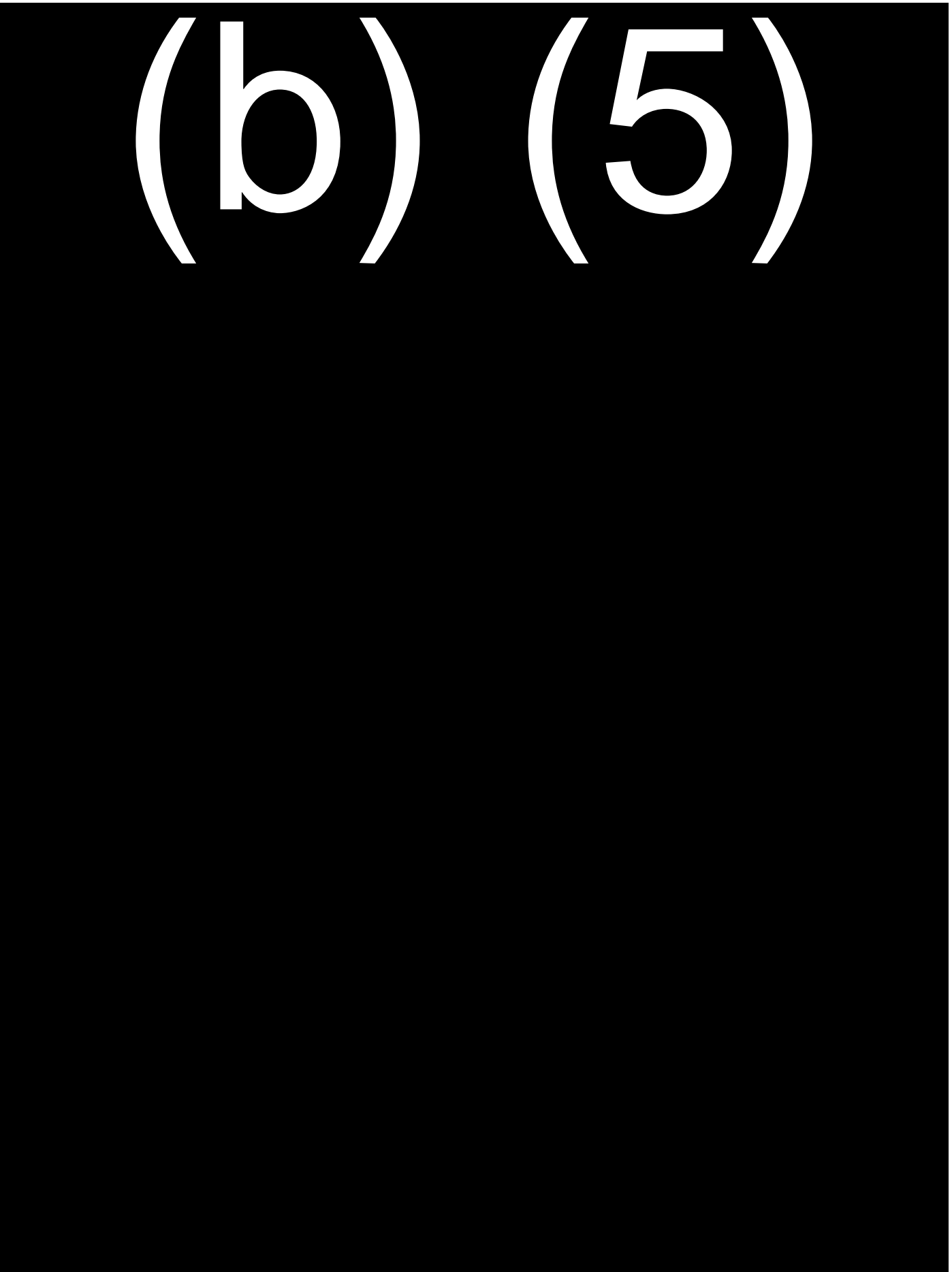
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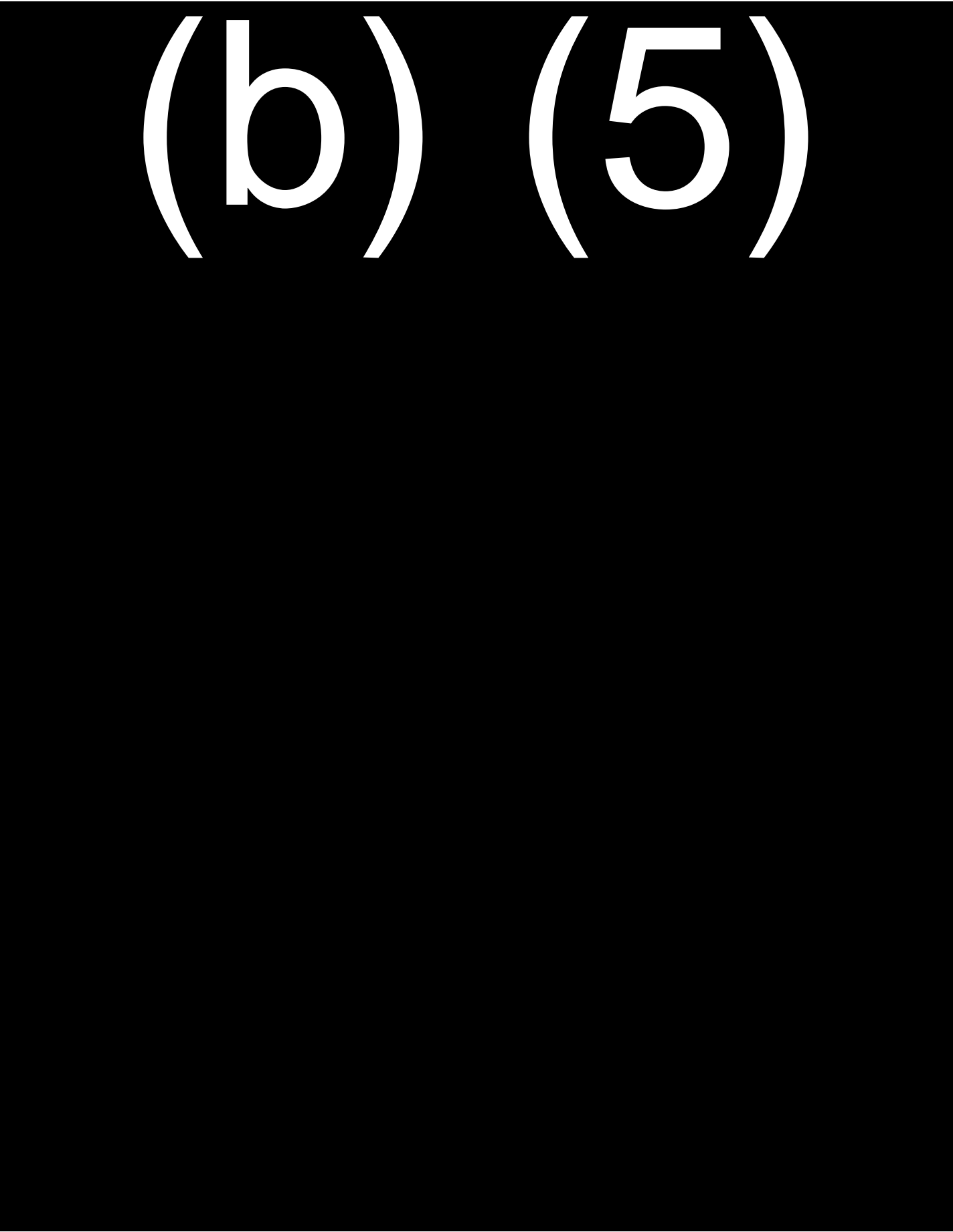
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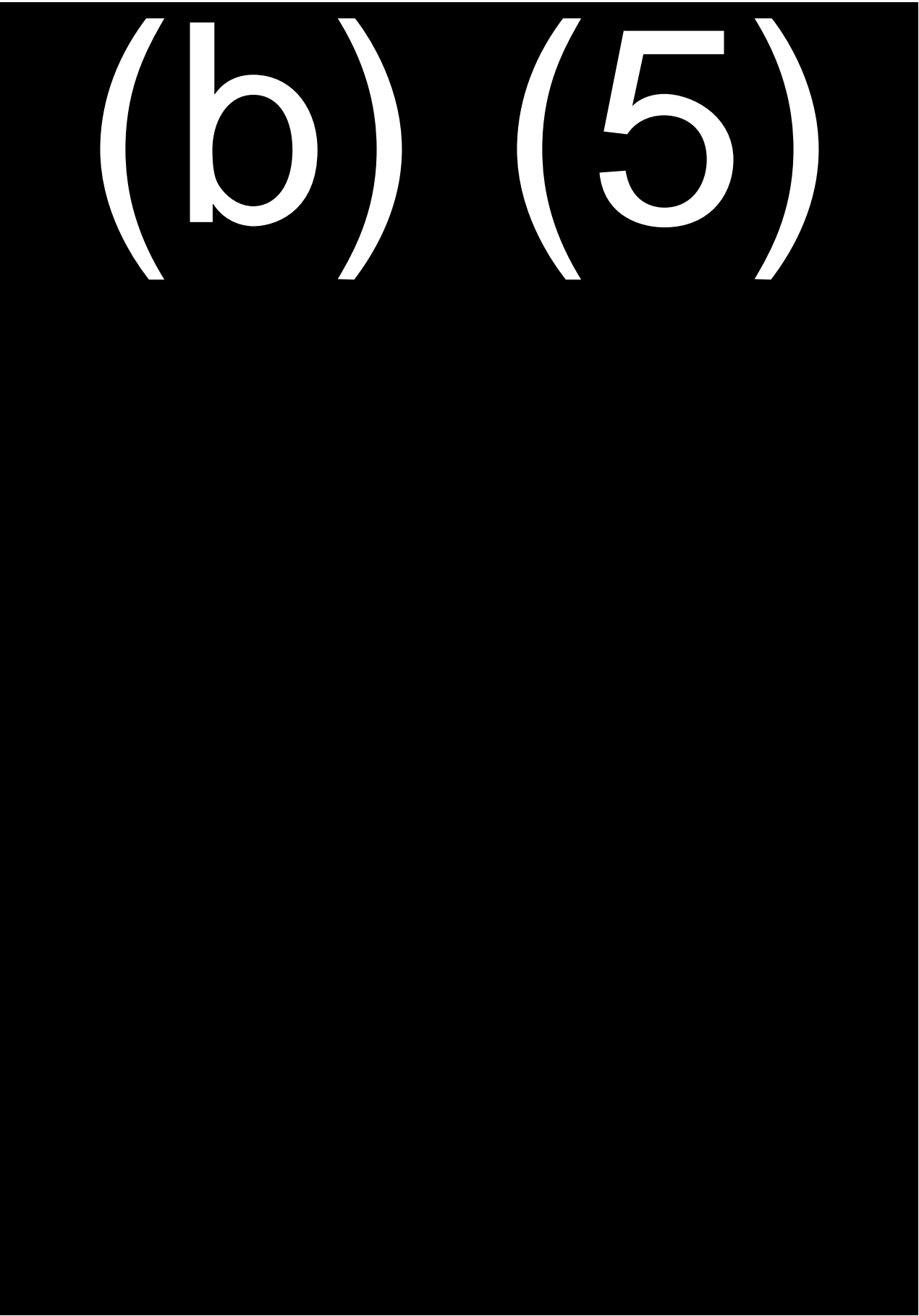
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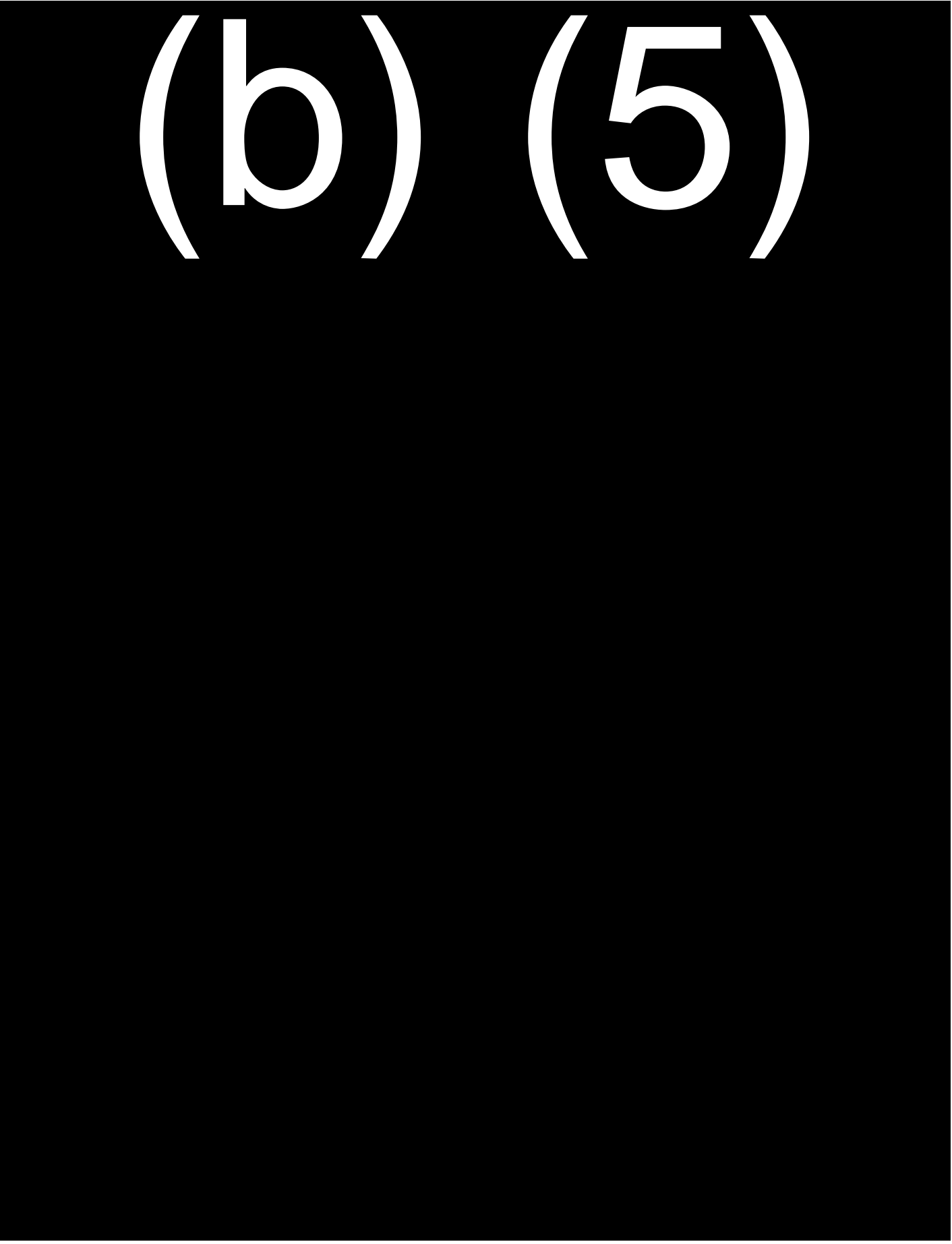
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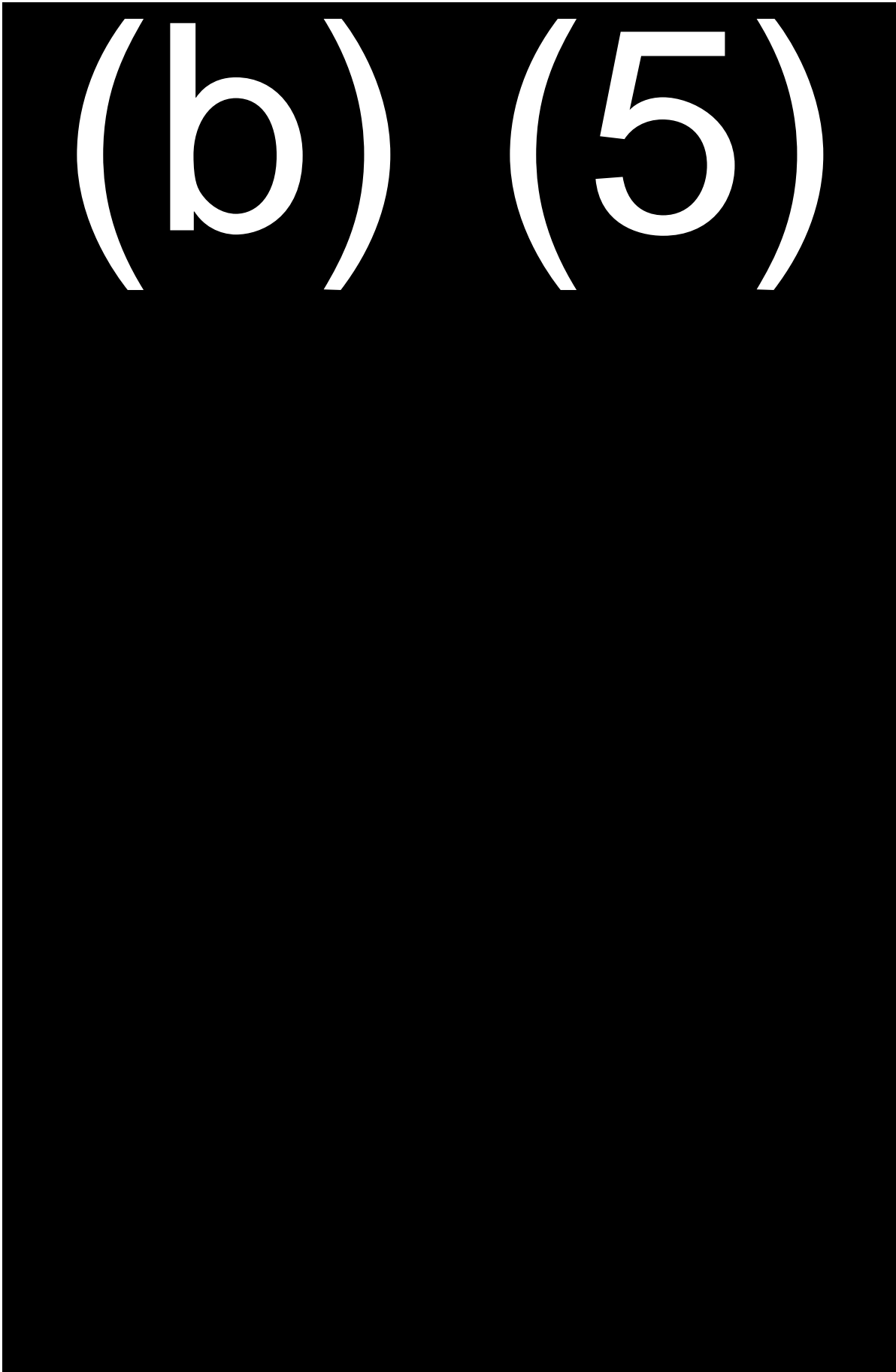
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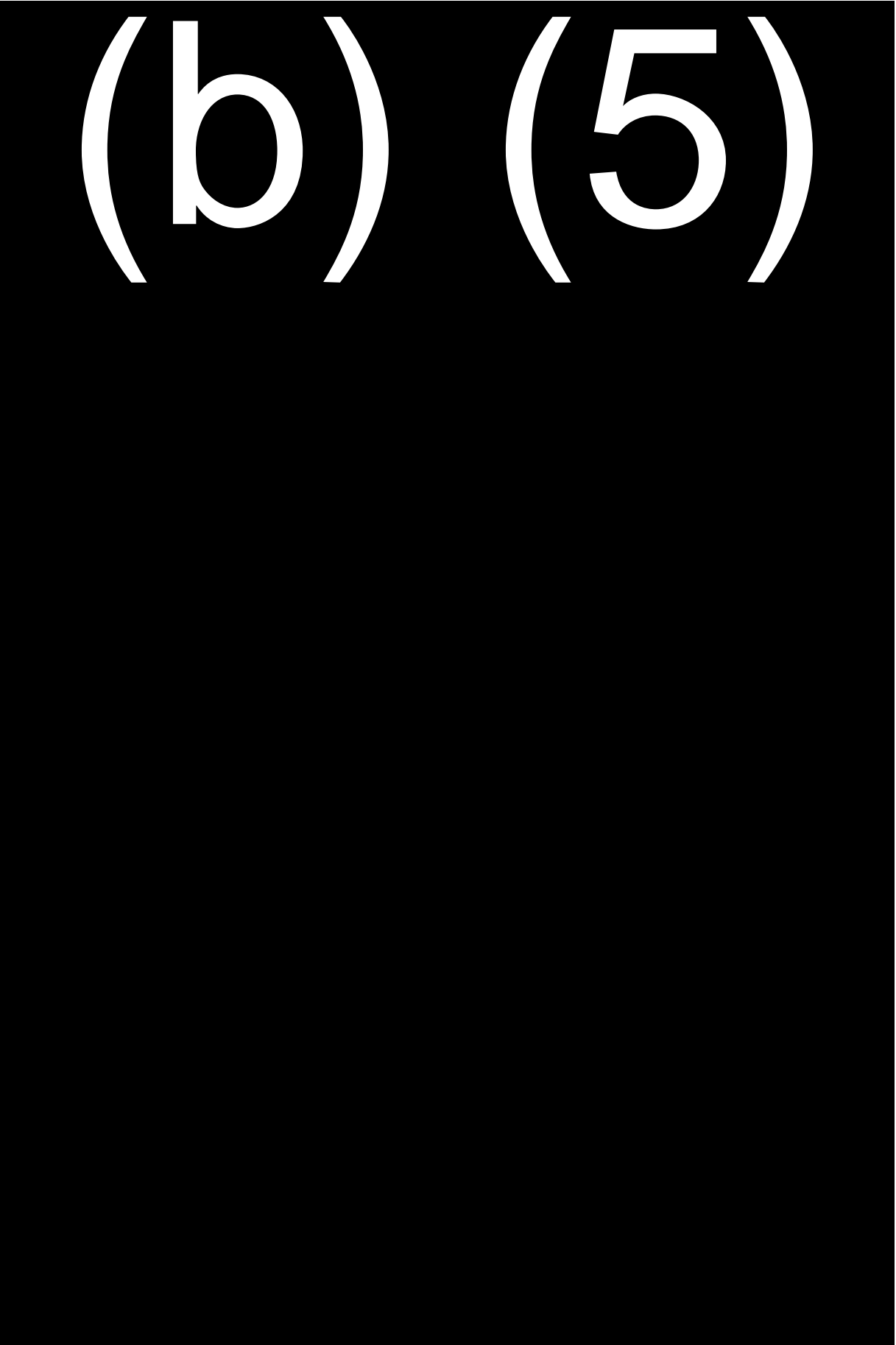
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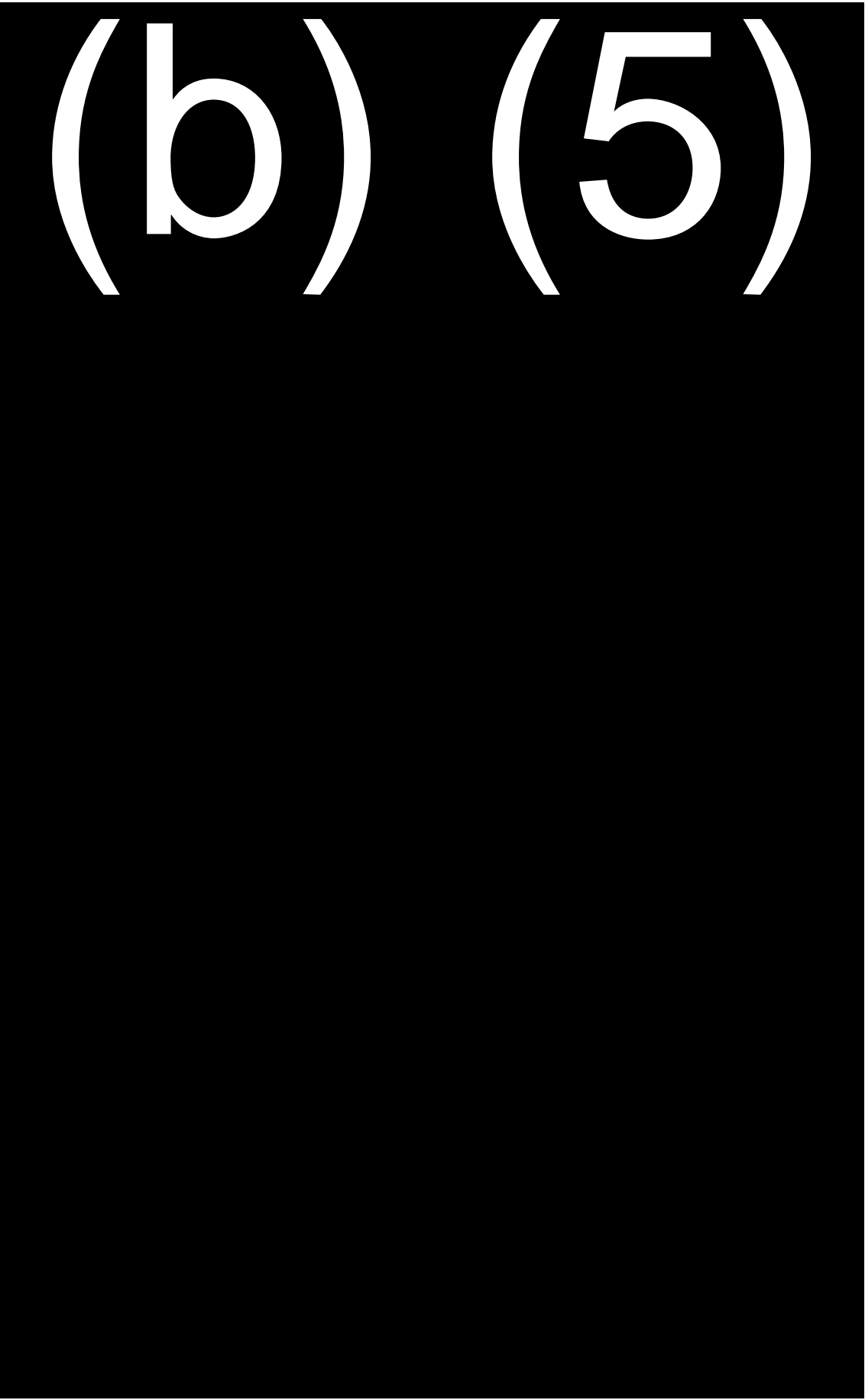
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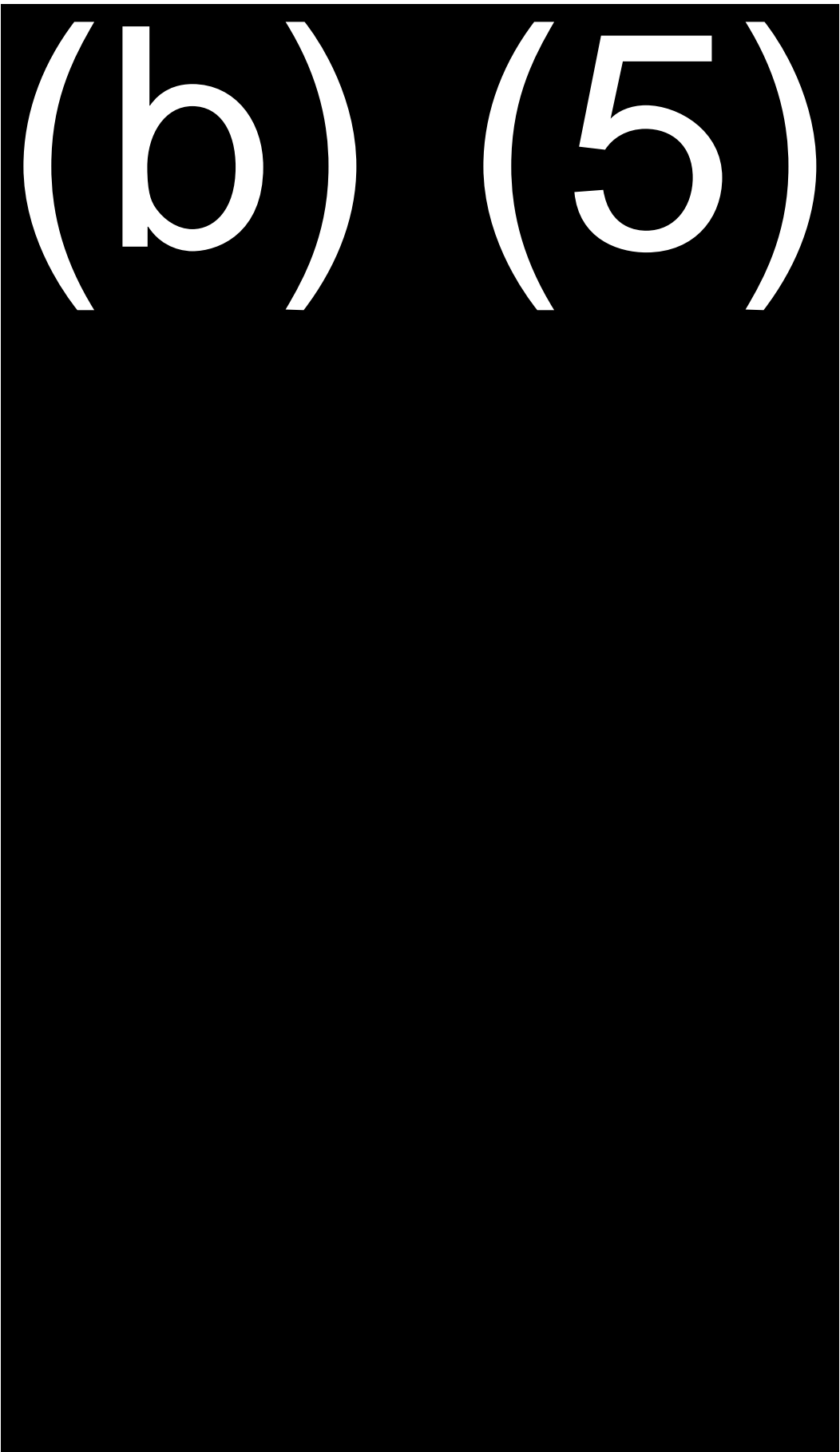
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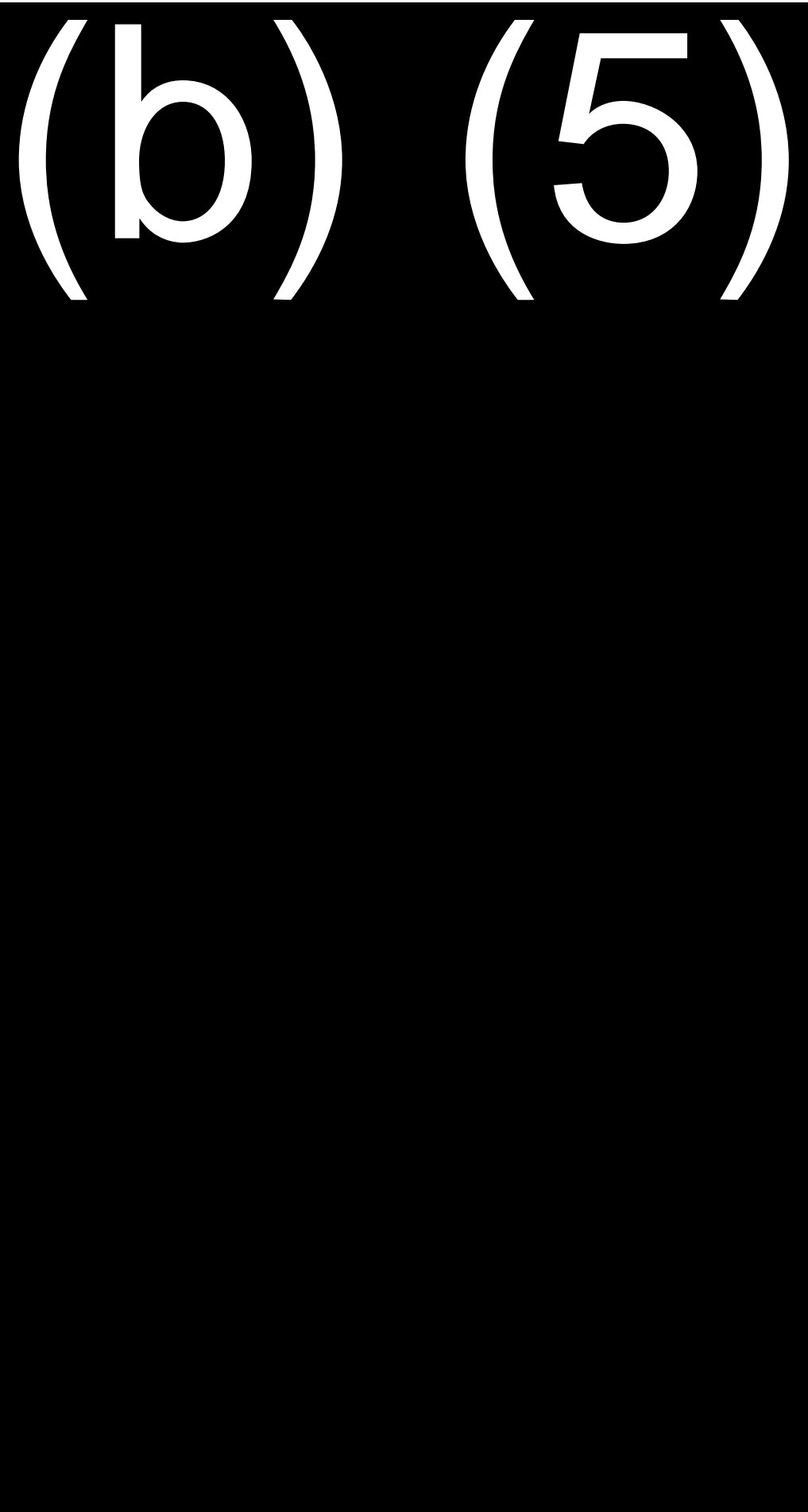
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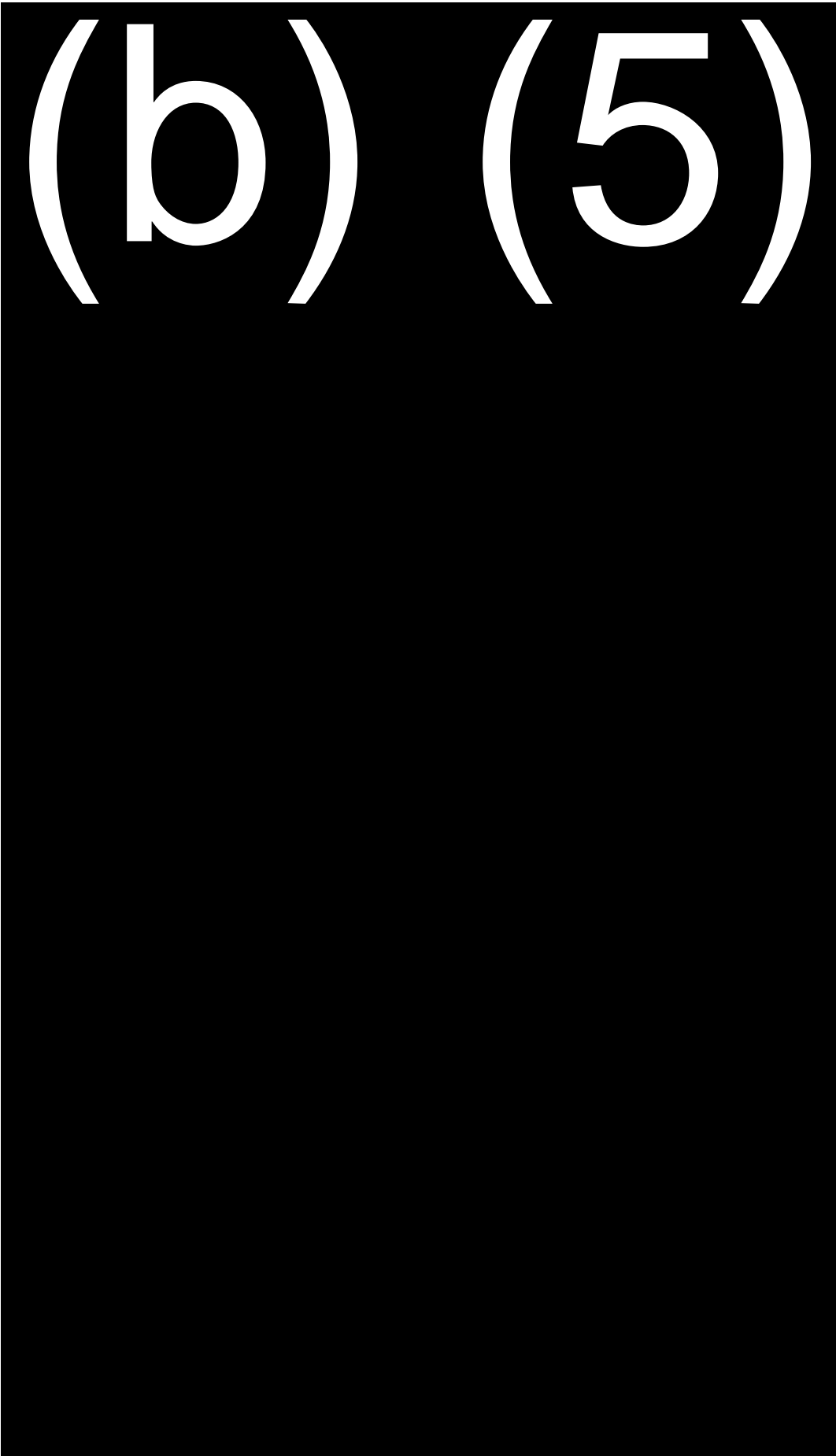
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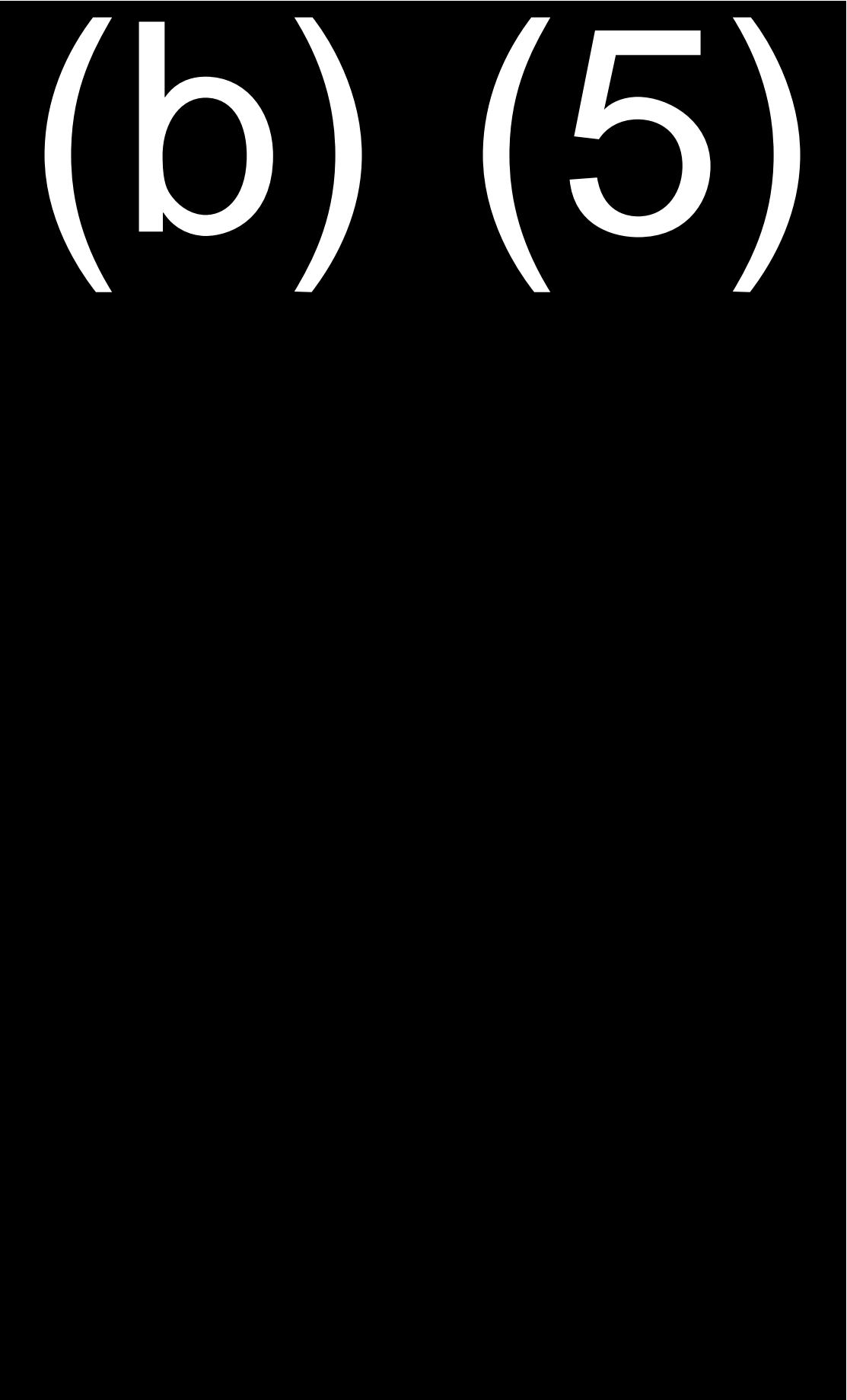
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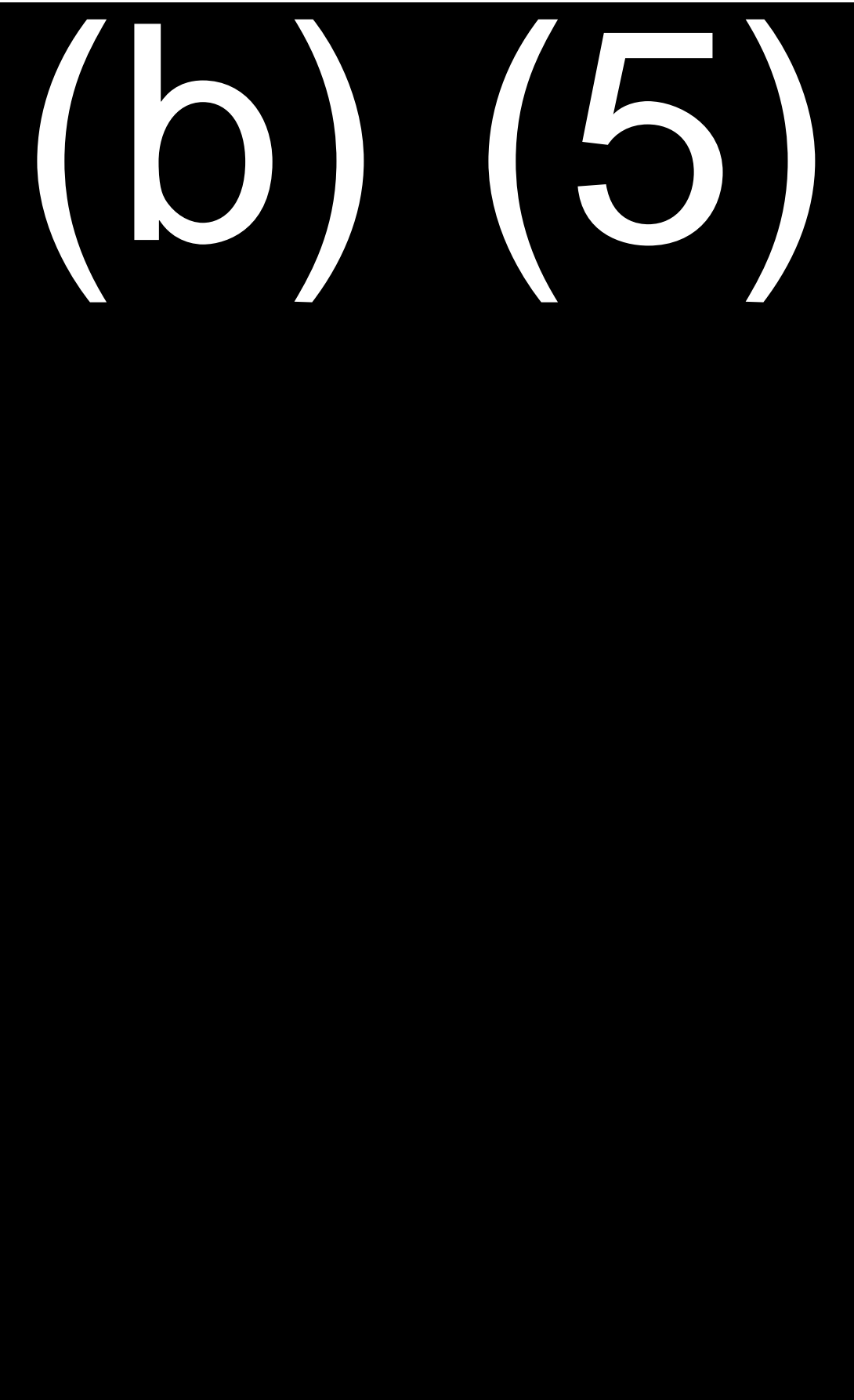
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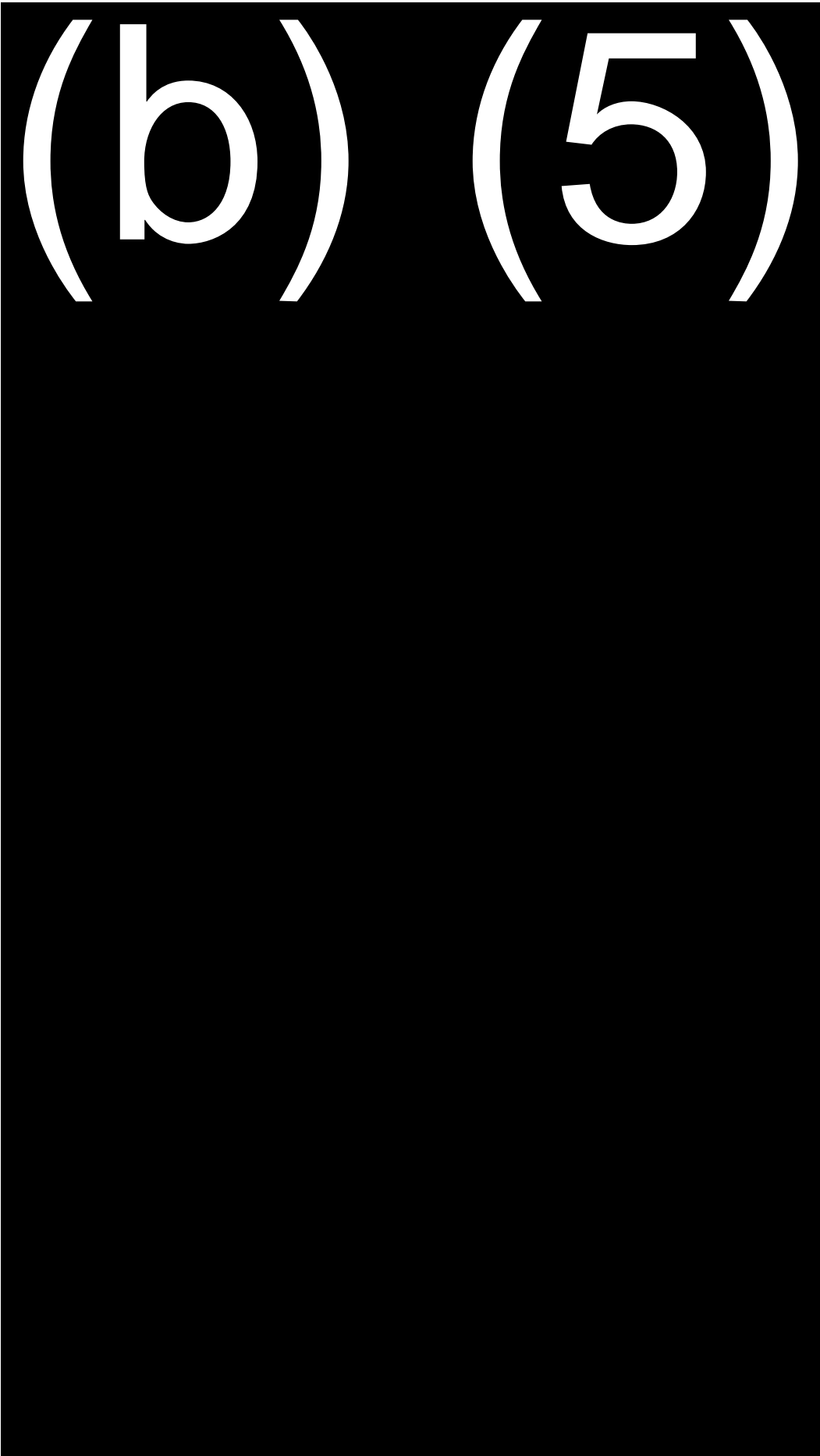
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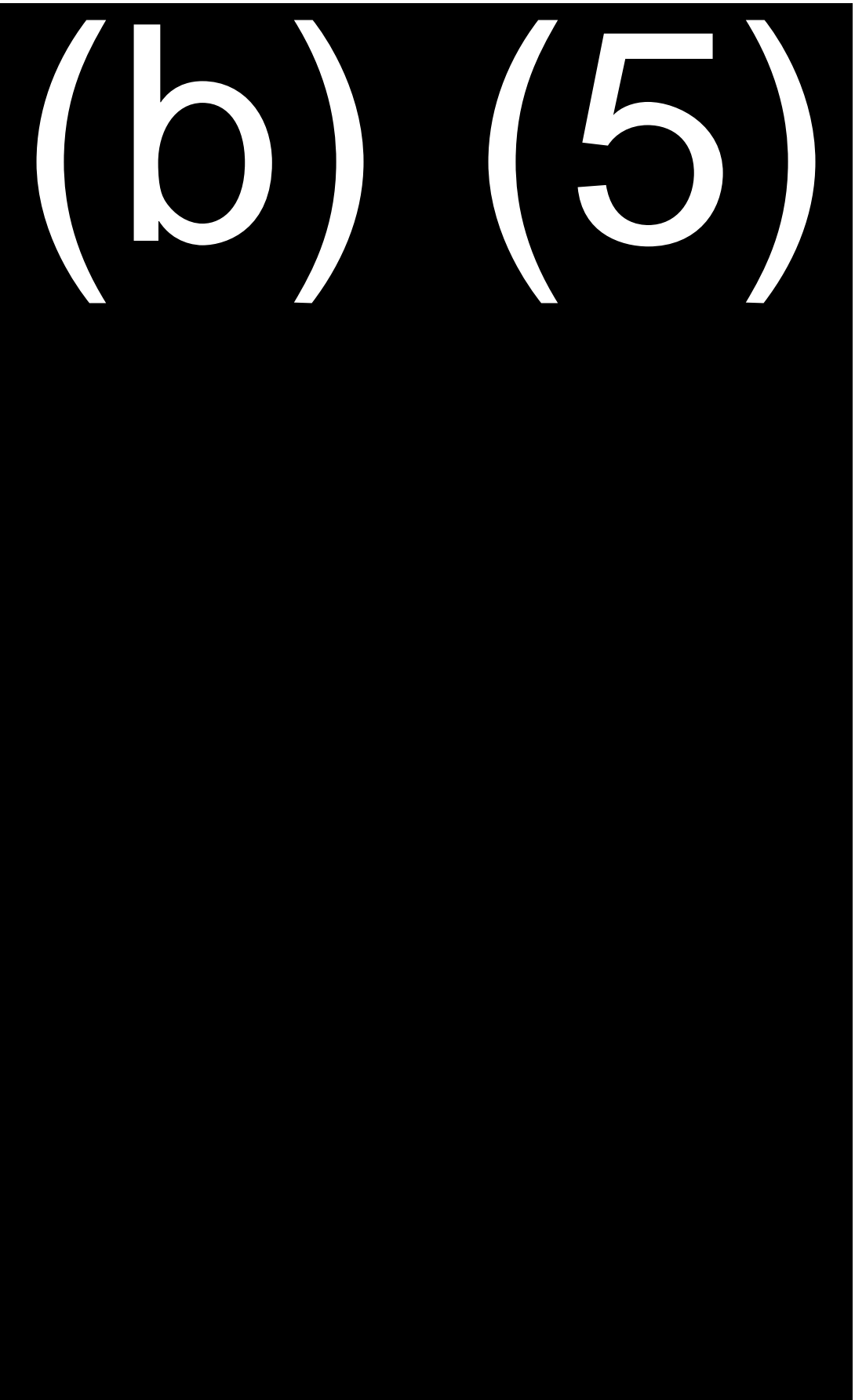
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(b) (5)

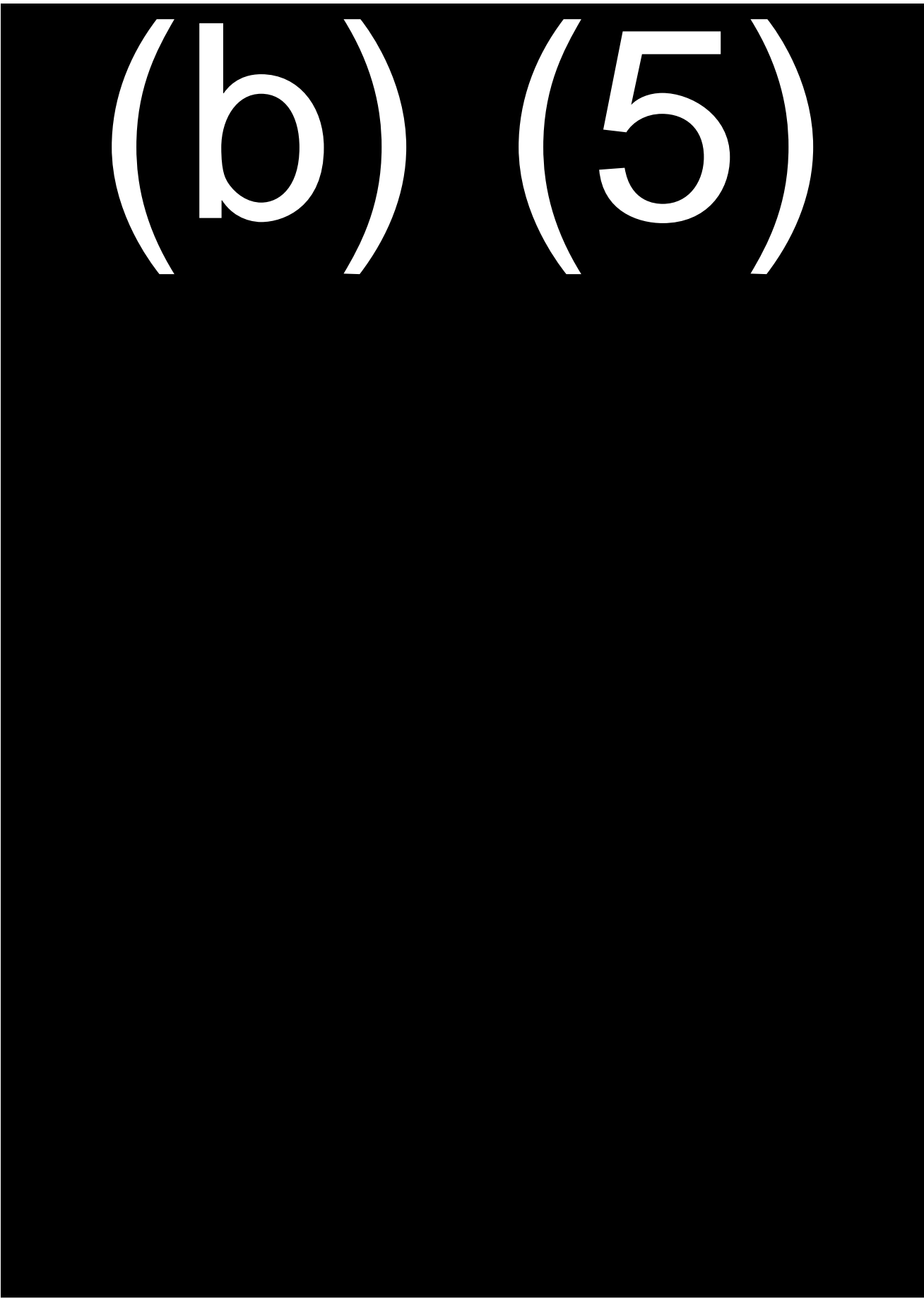
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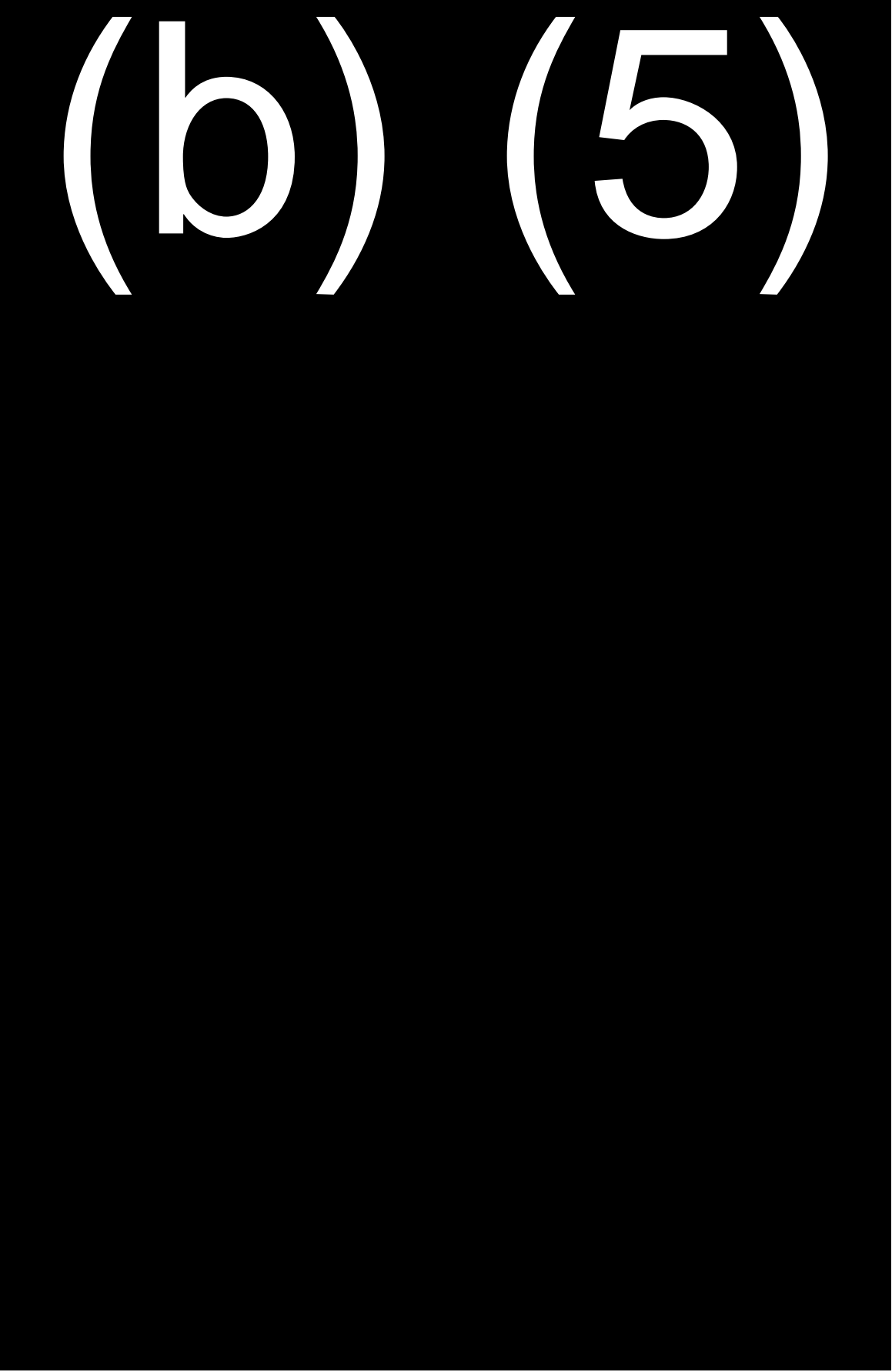


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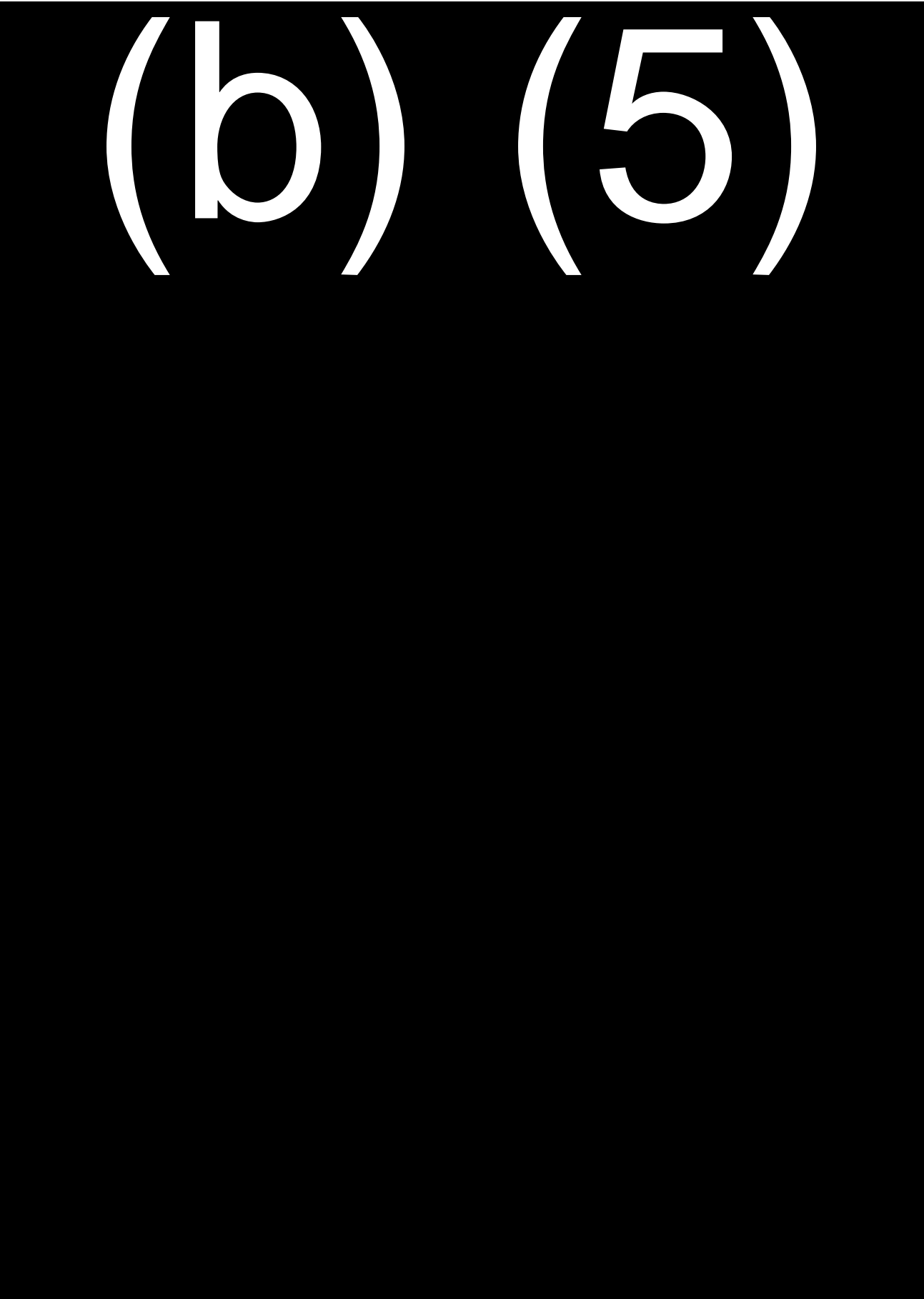
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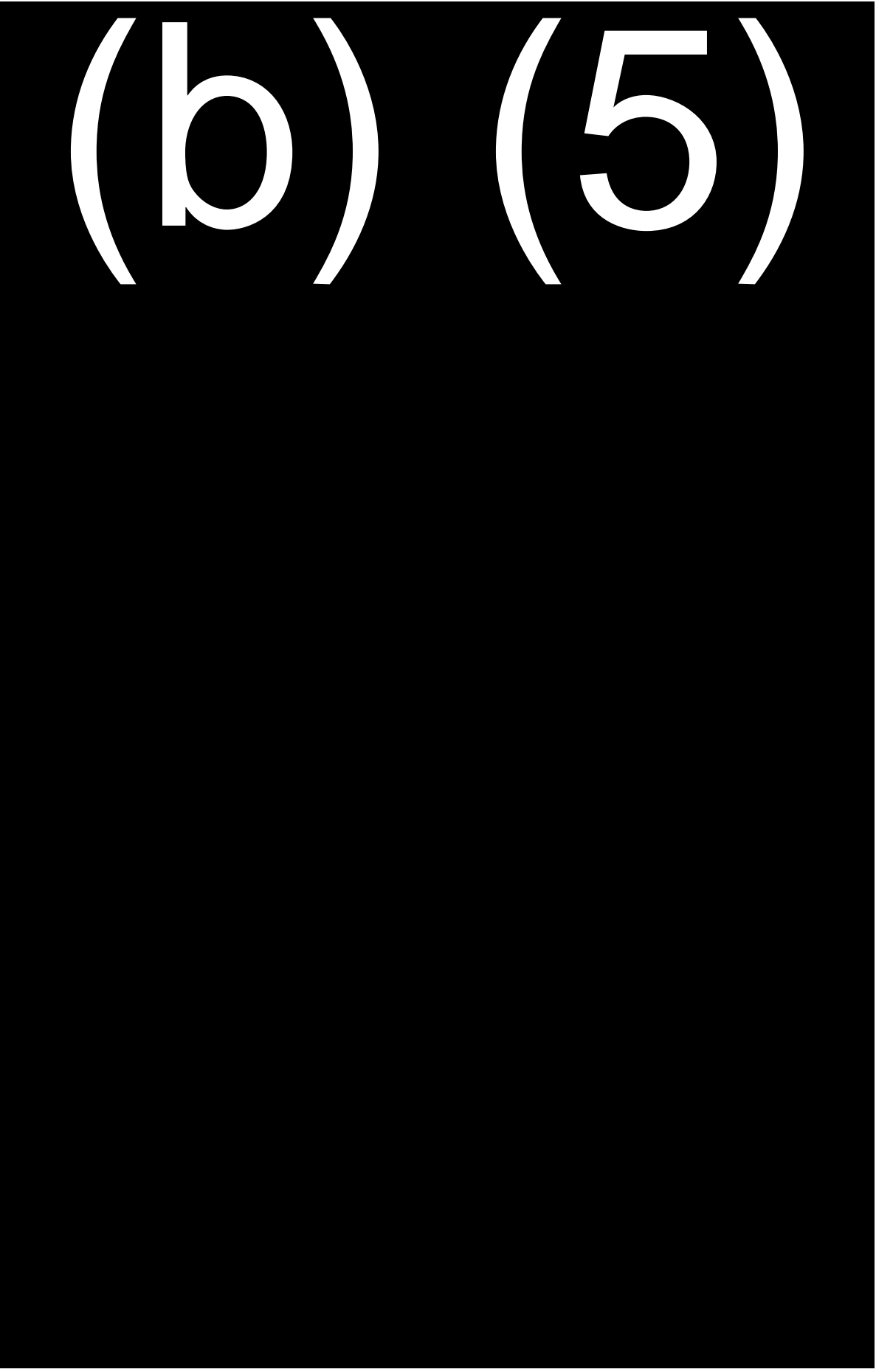
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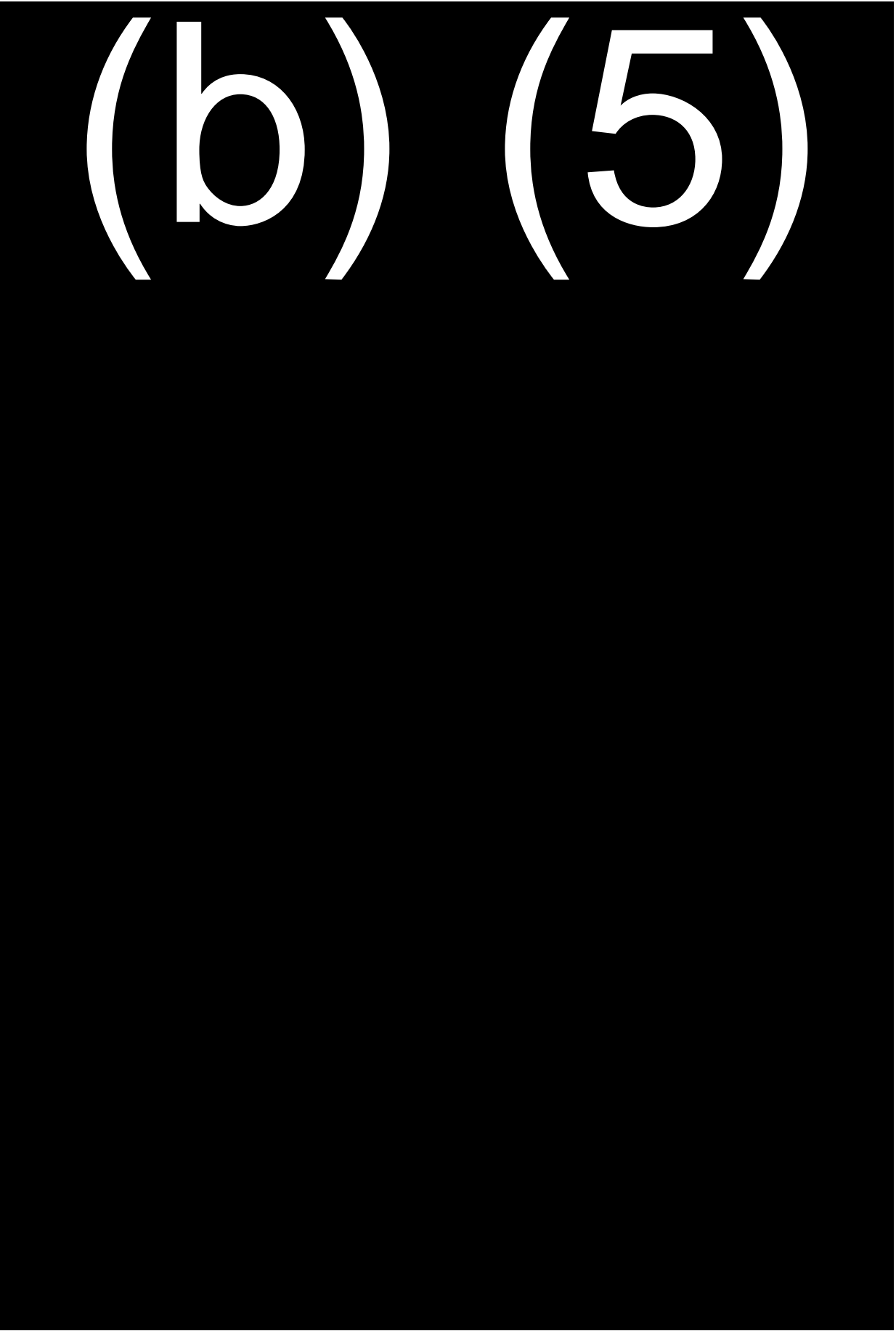


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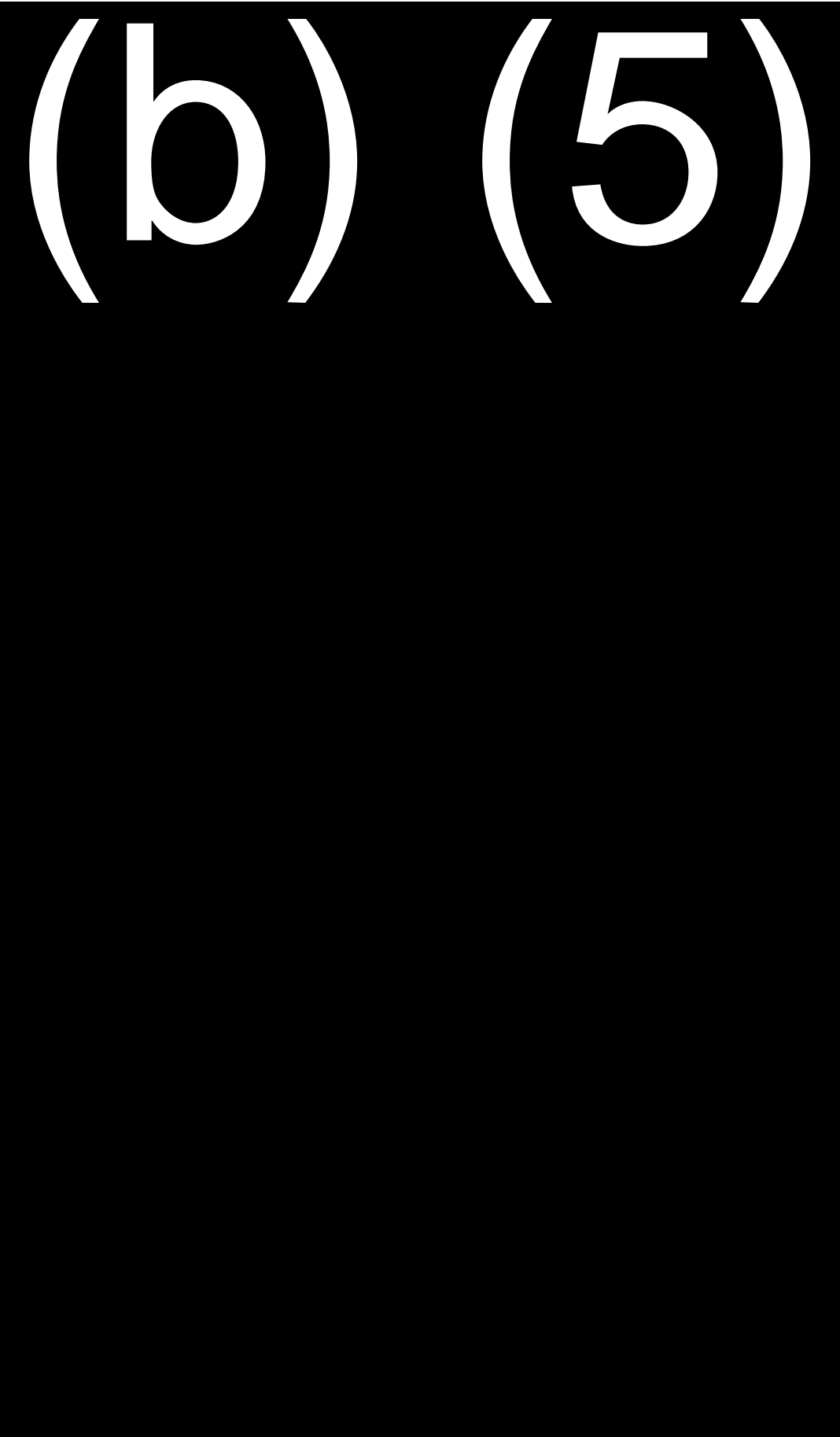


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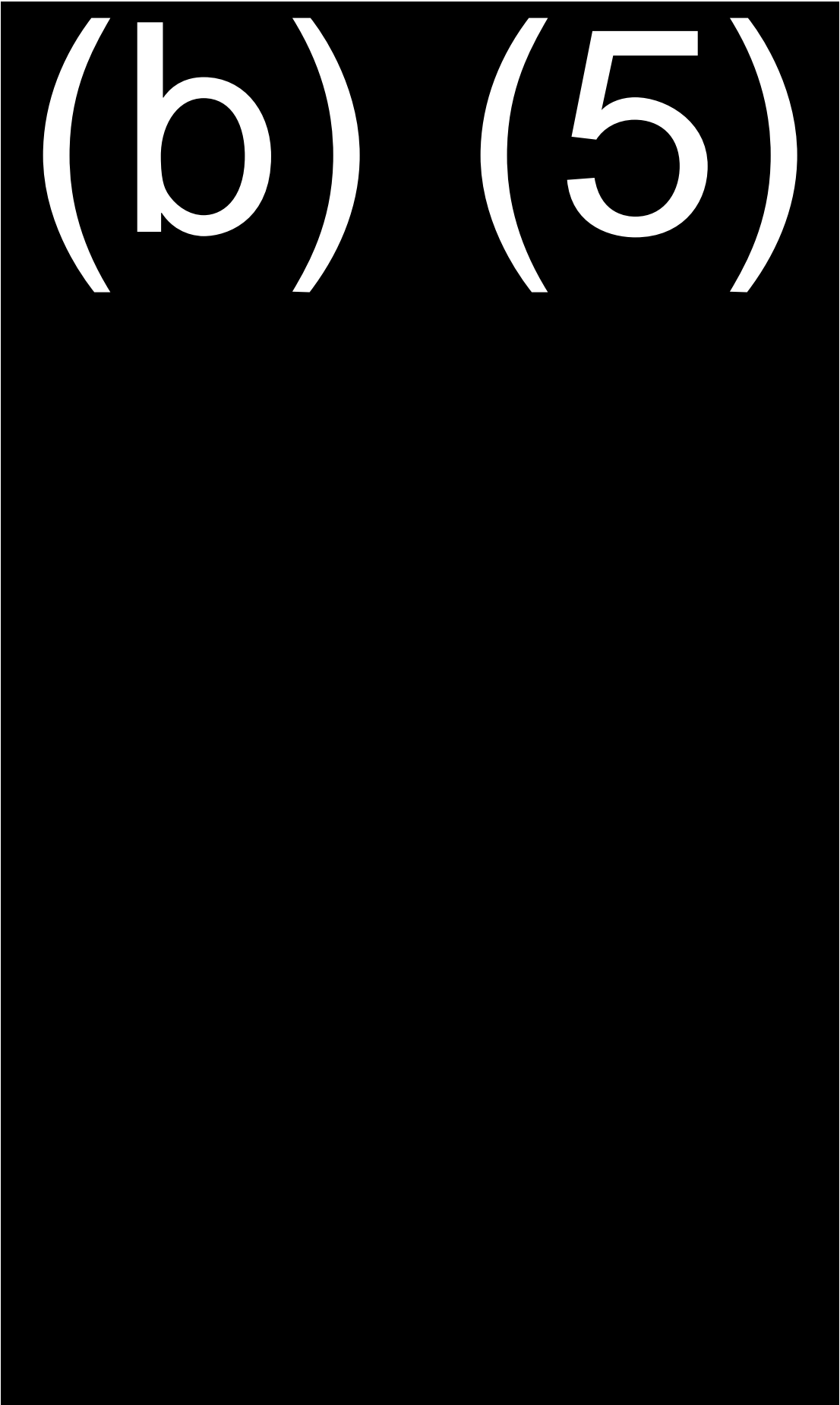
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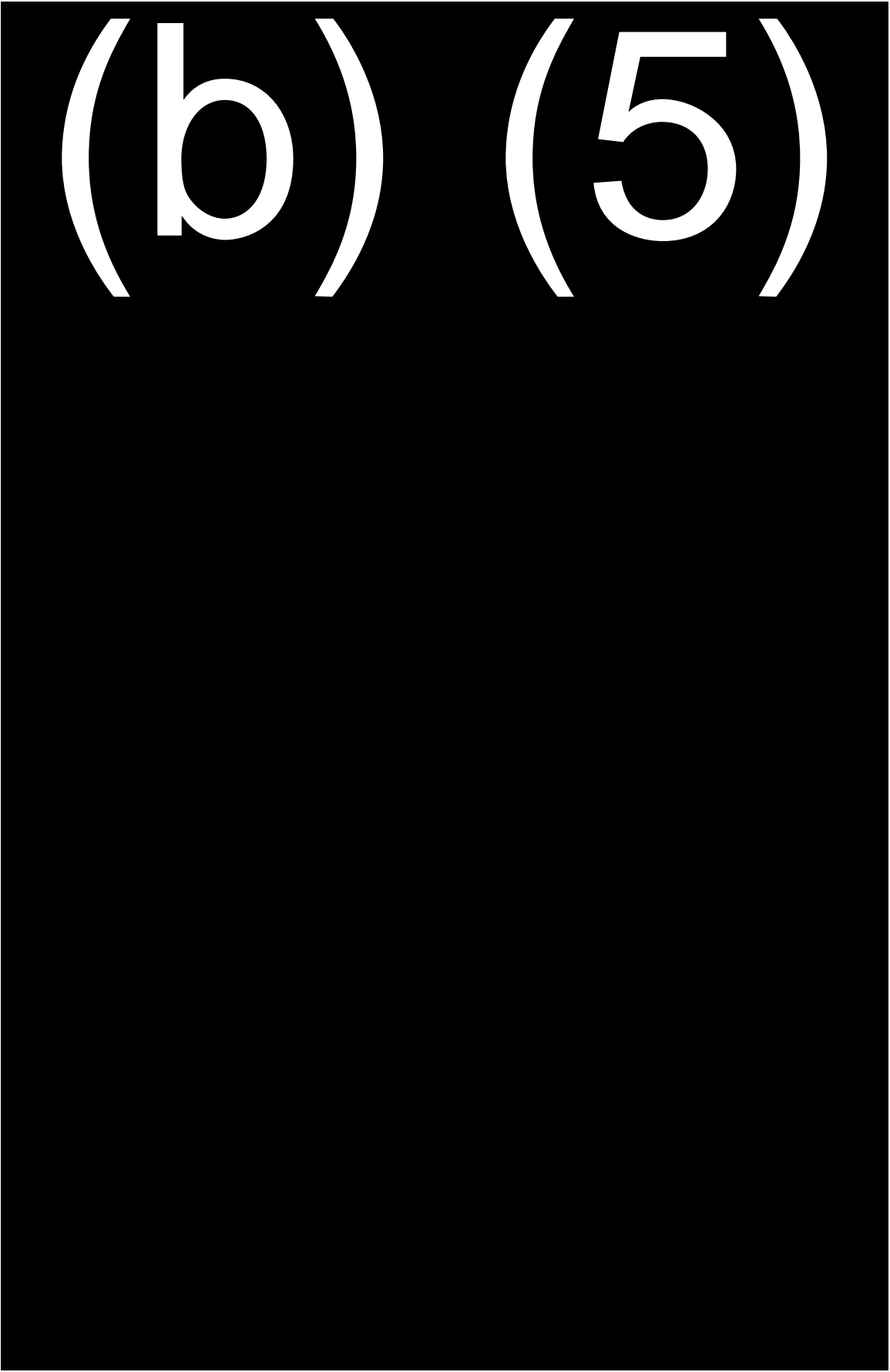
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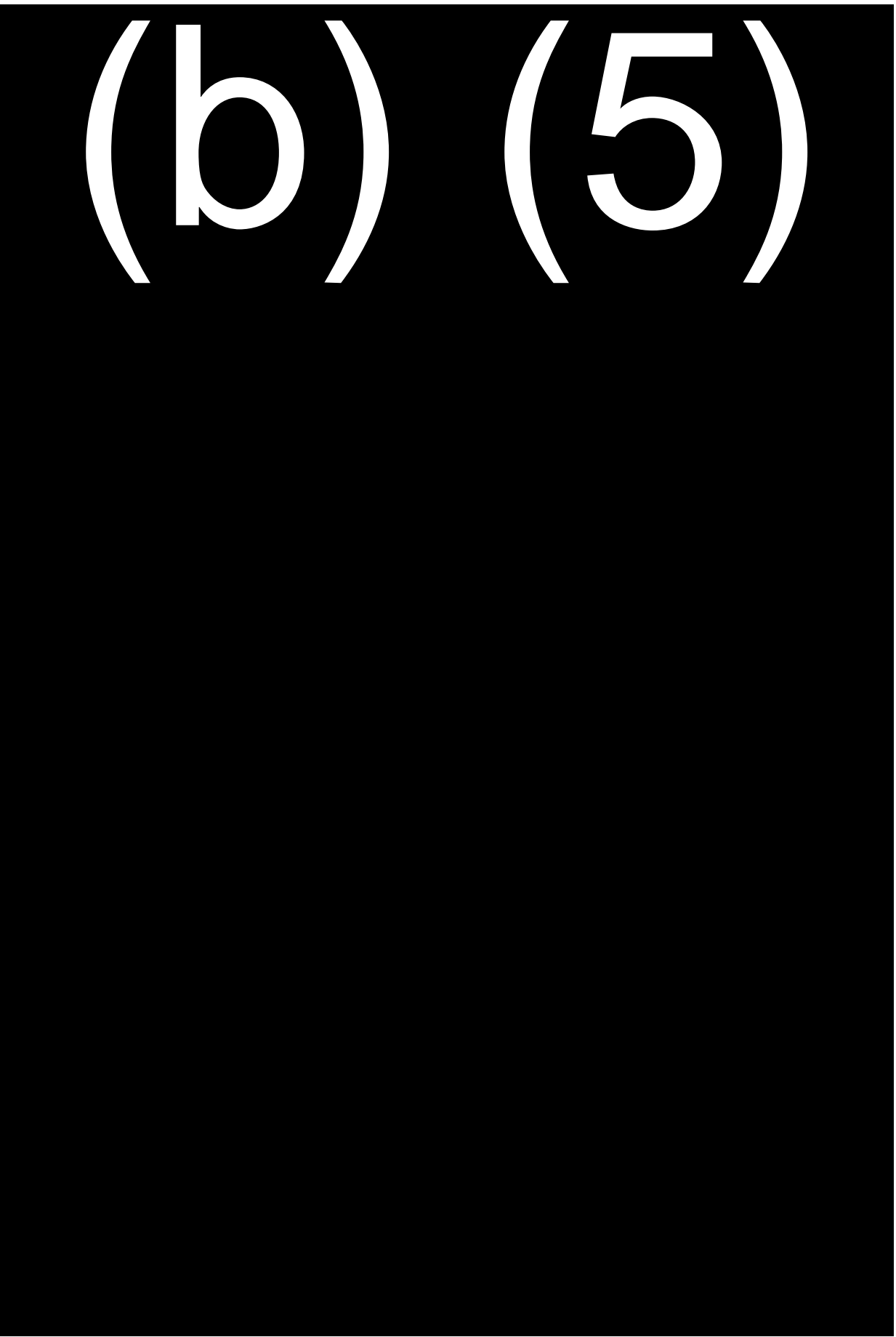
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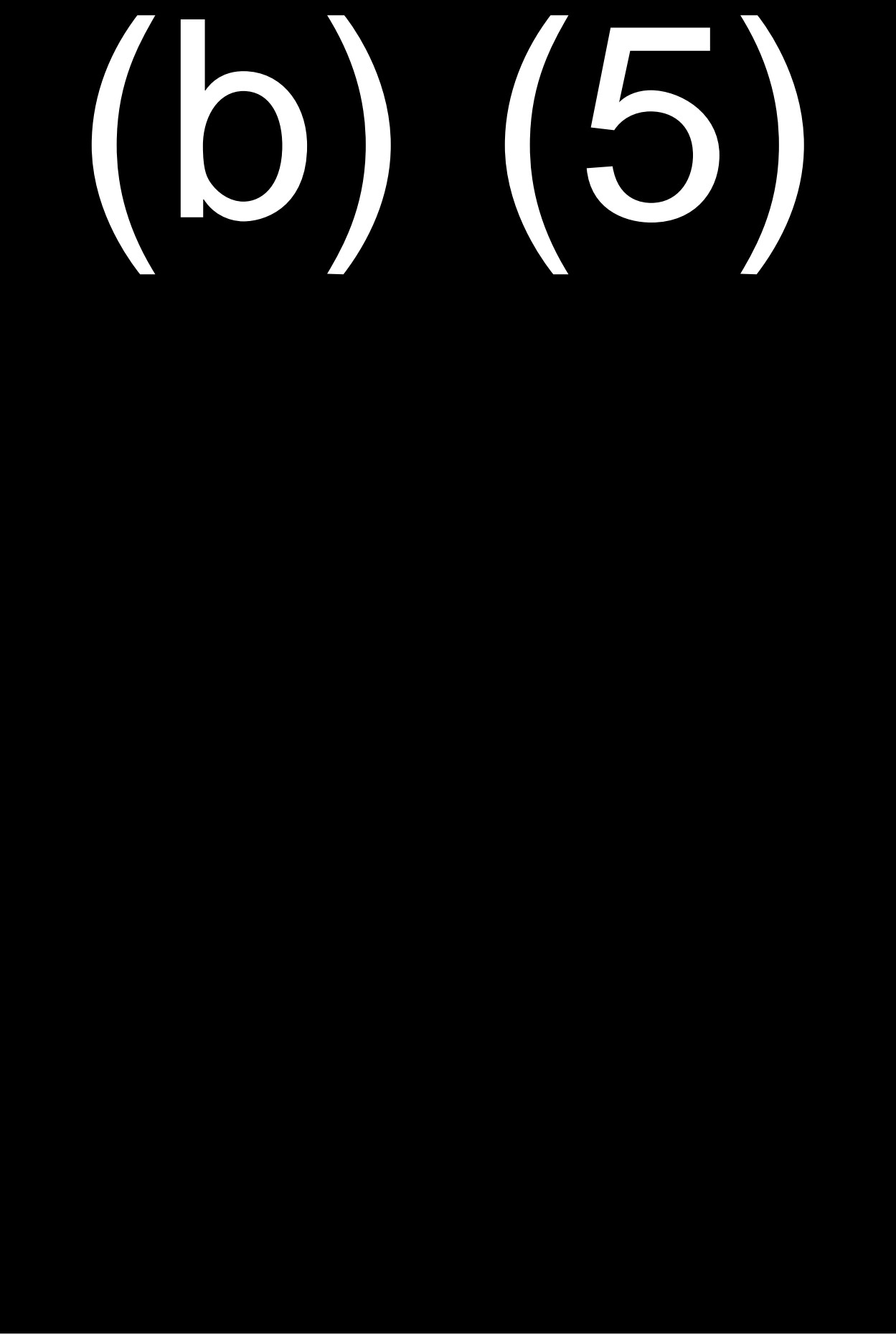
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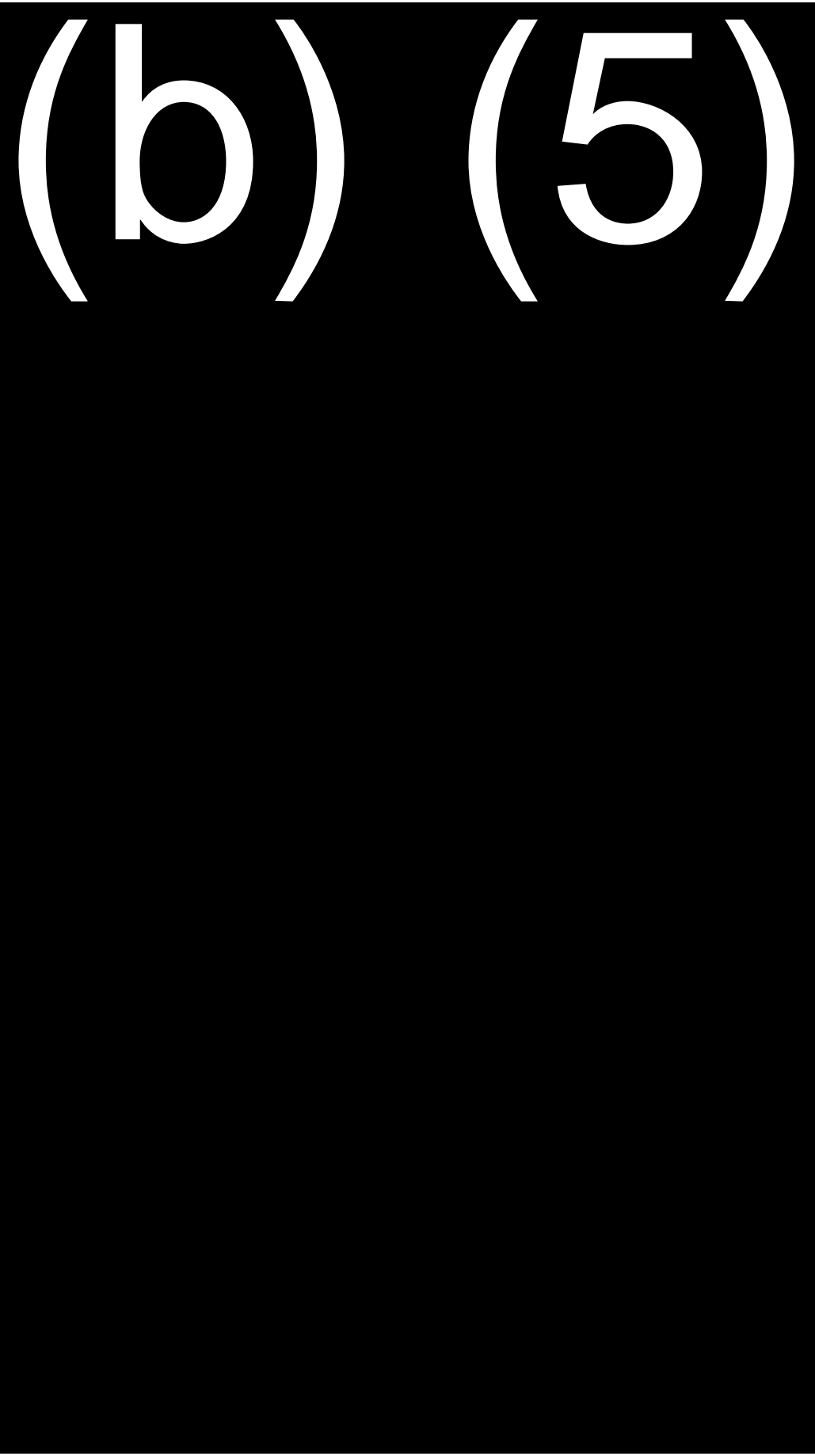
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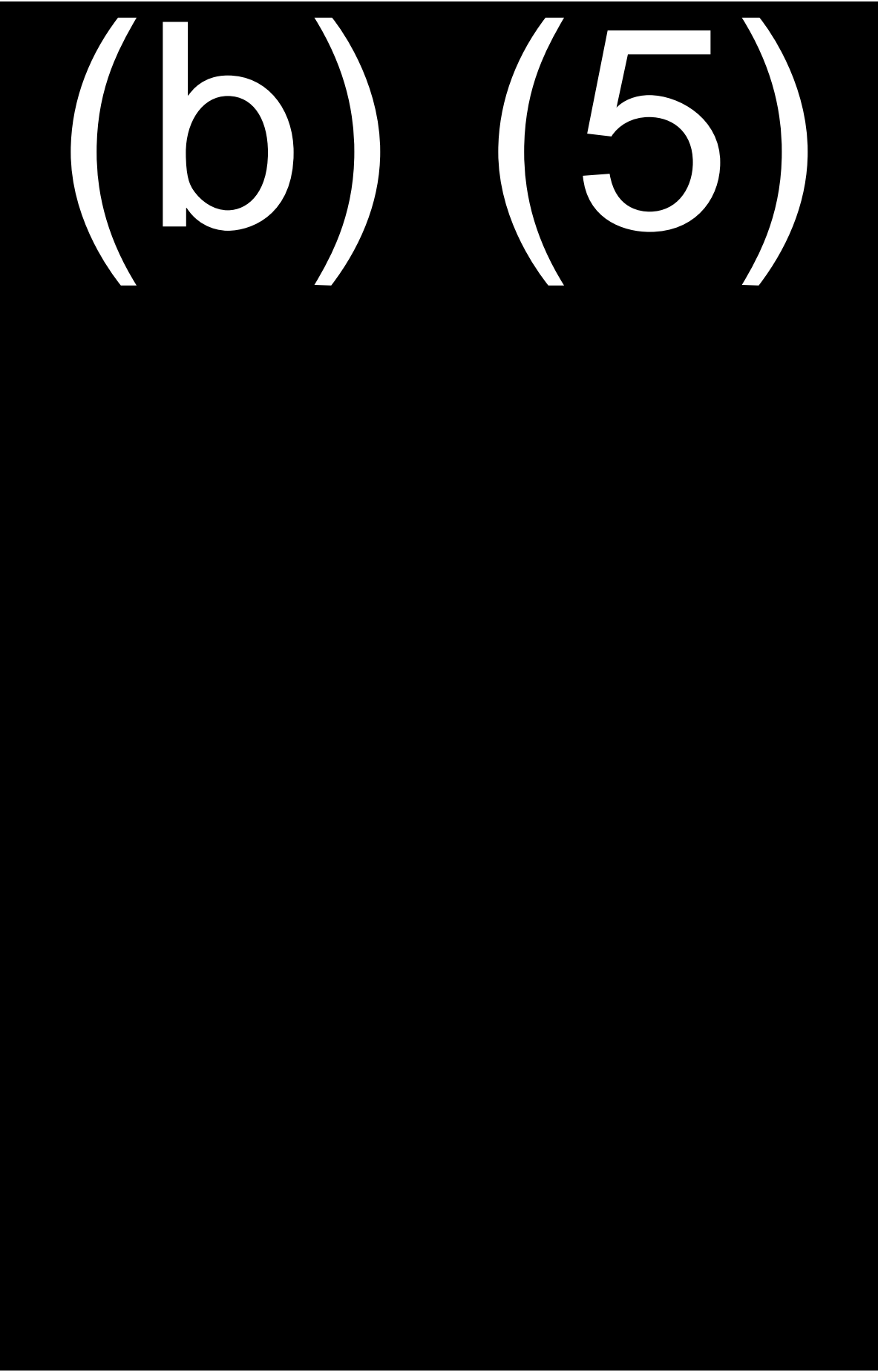


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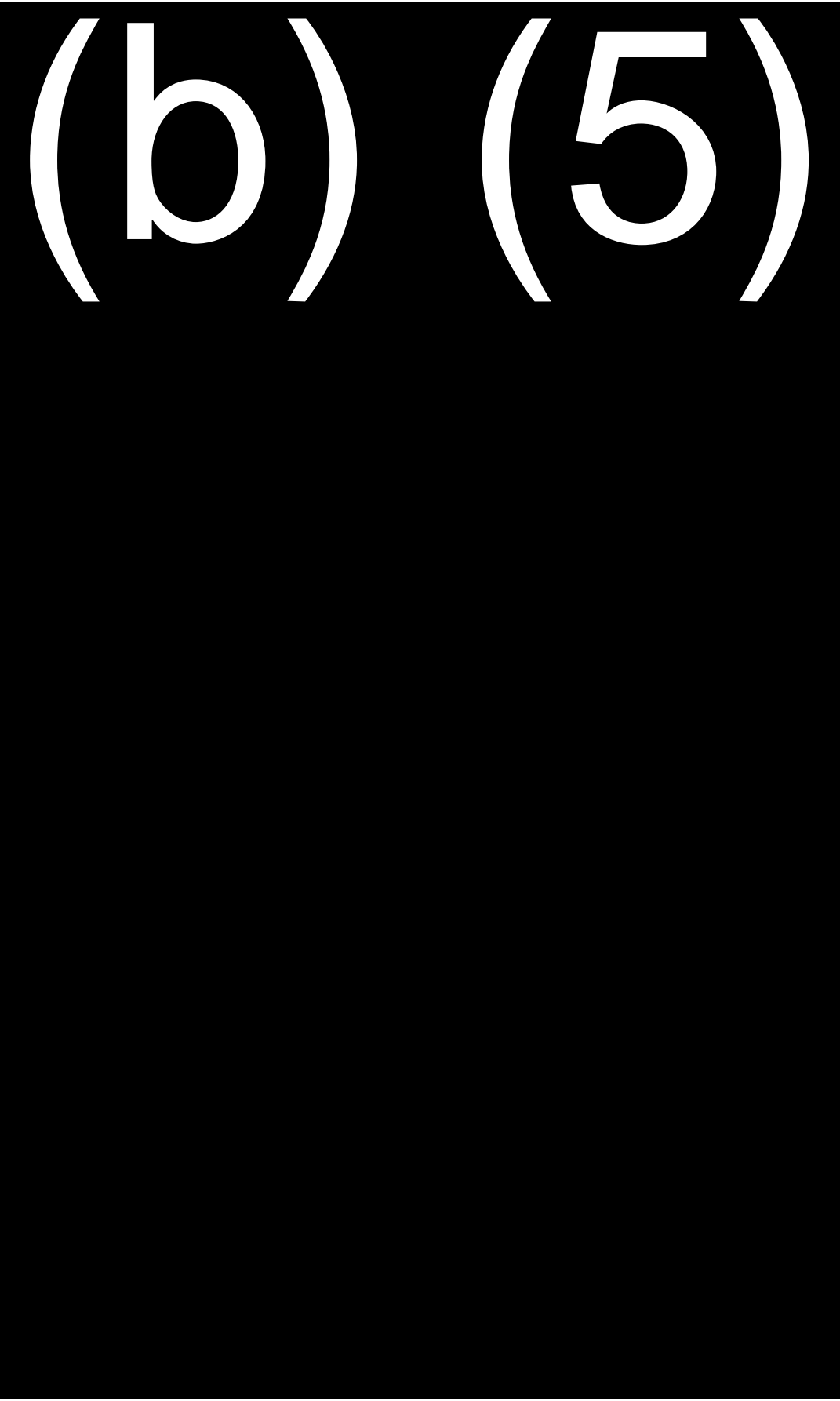


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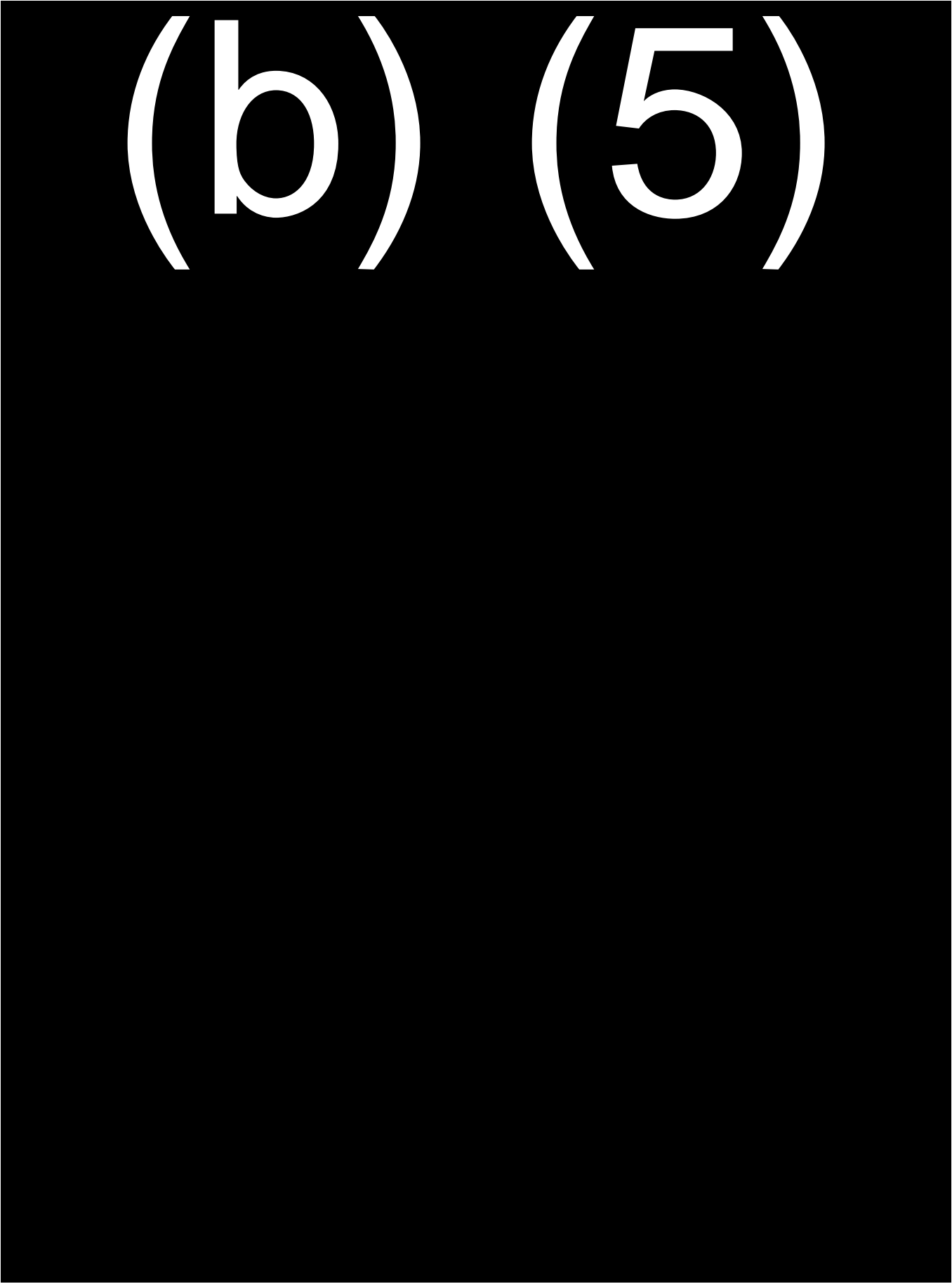


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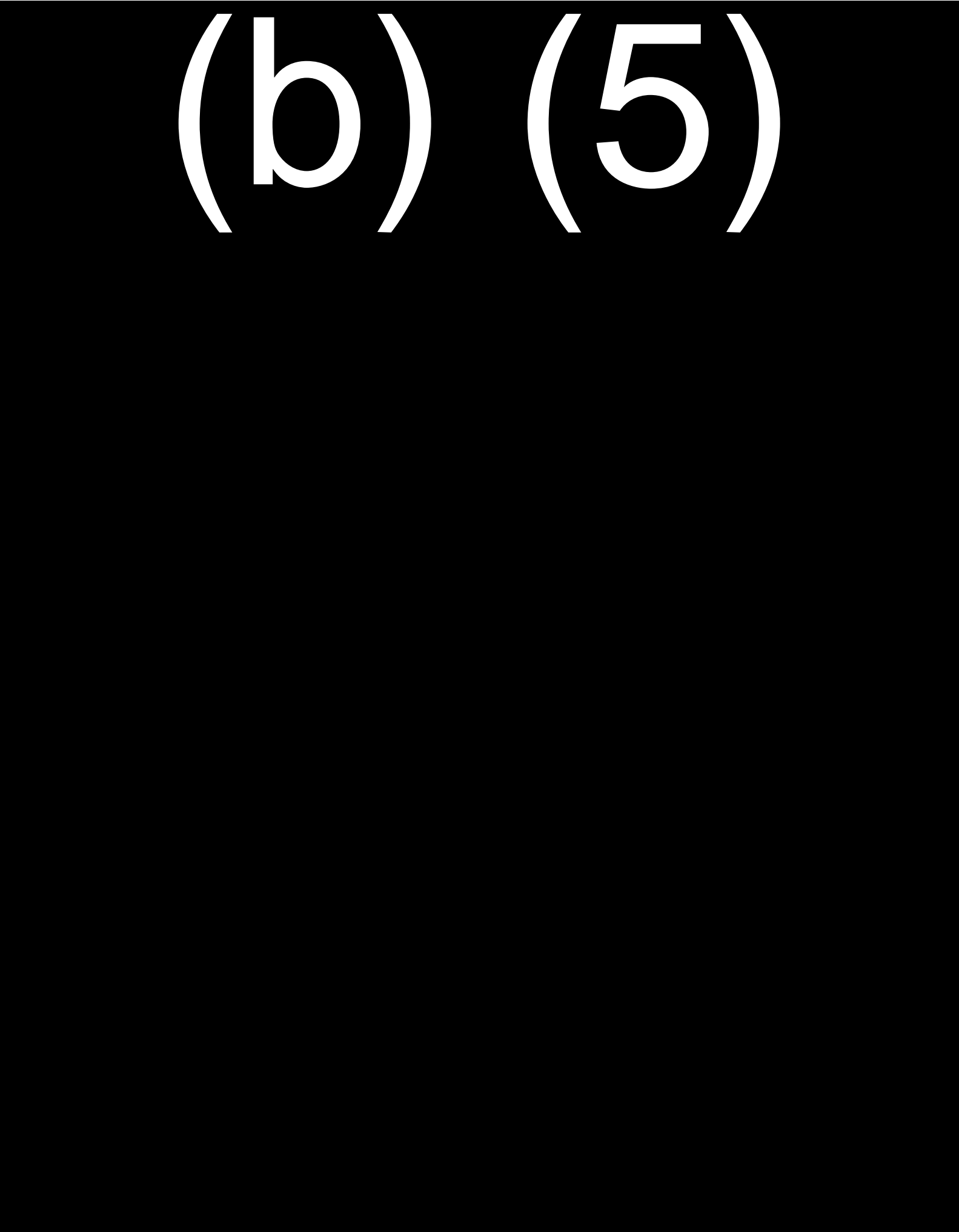
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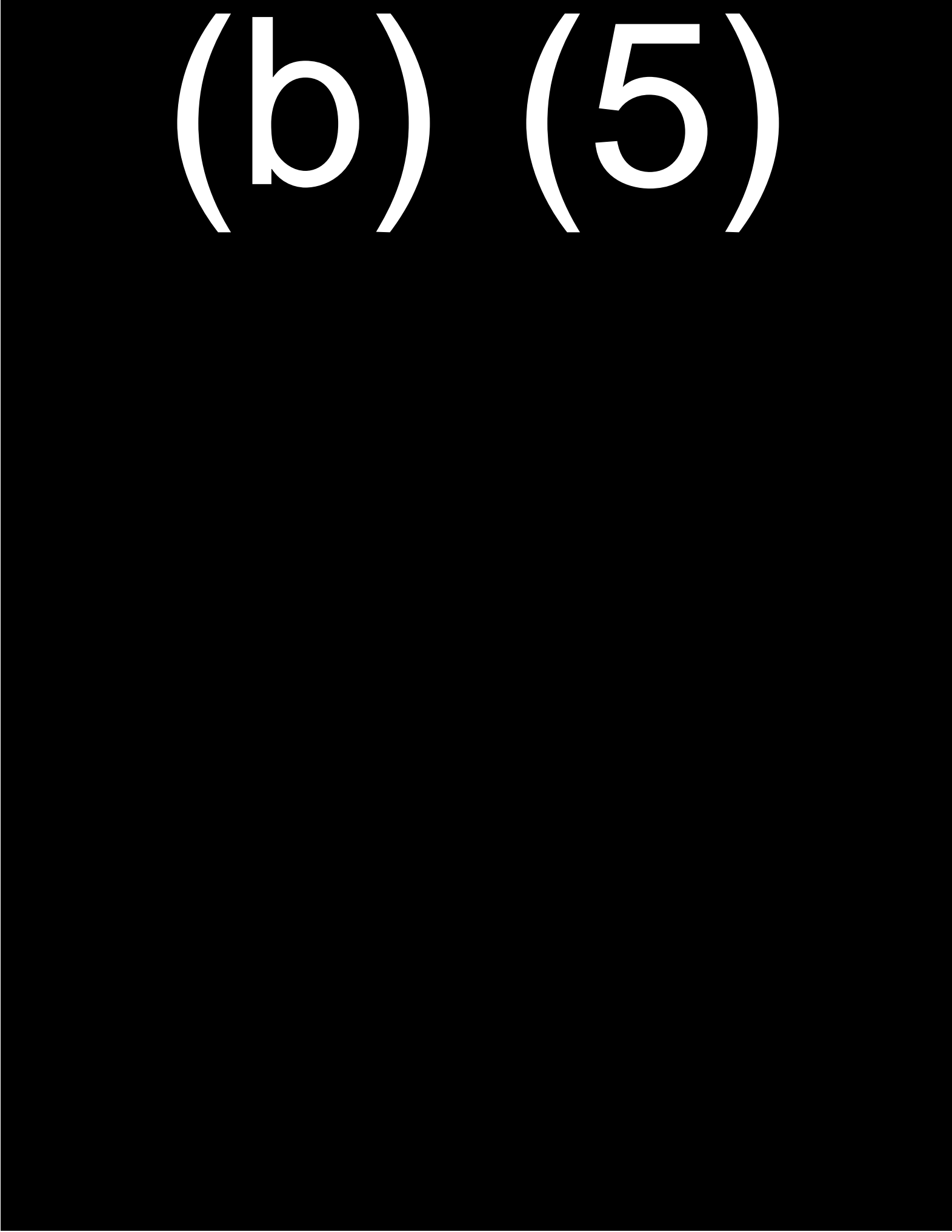
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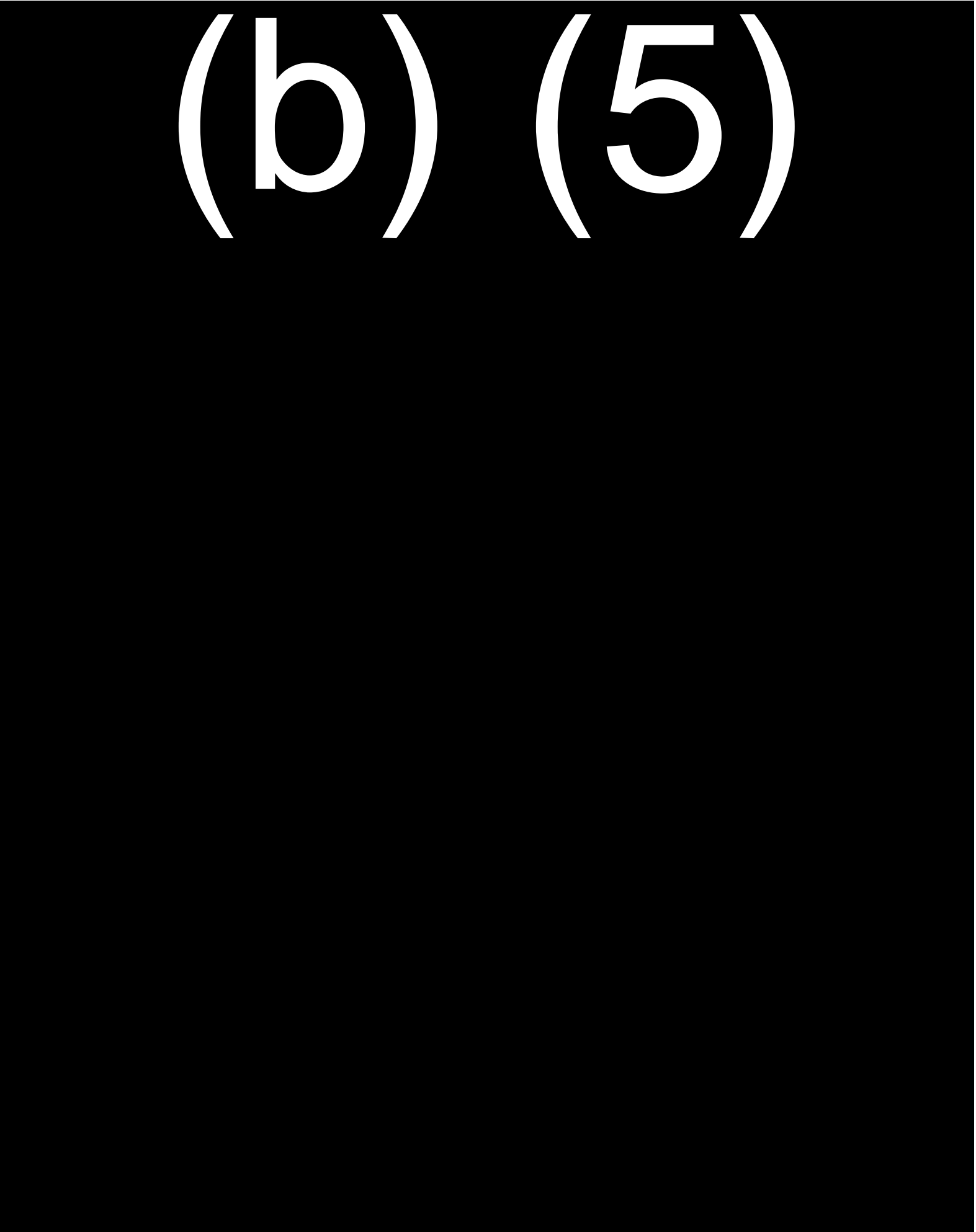


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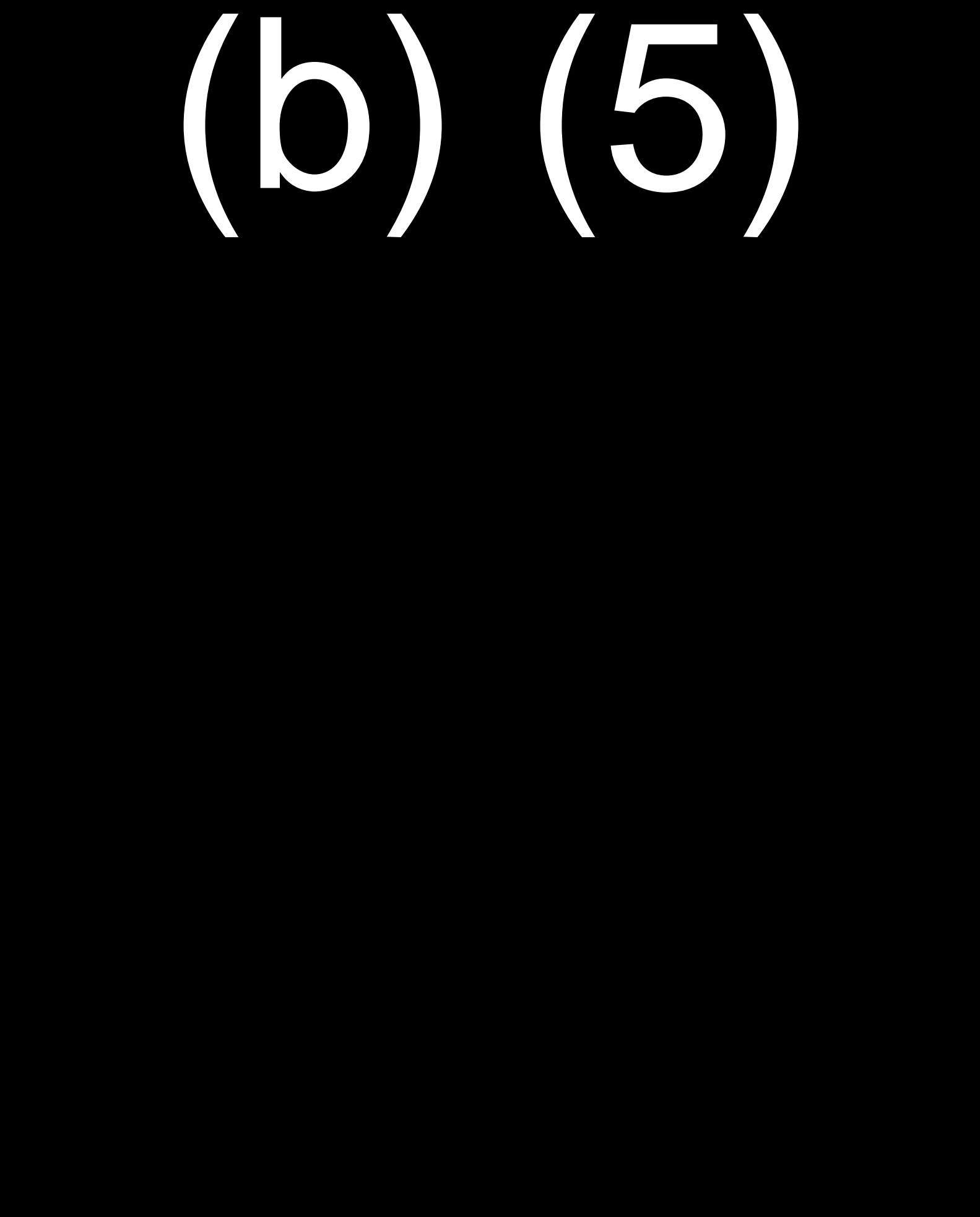


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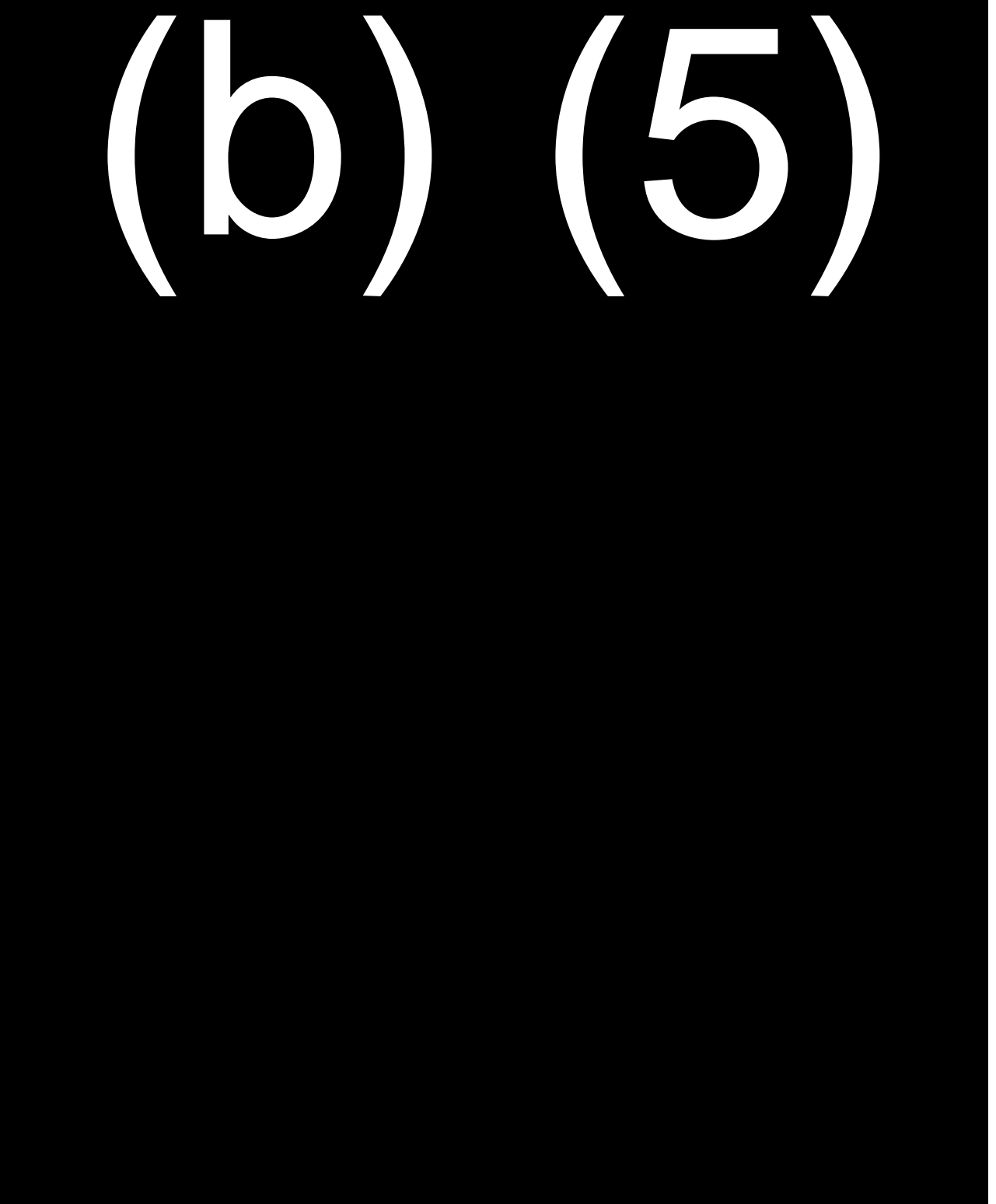
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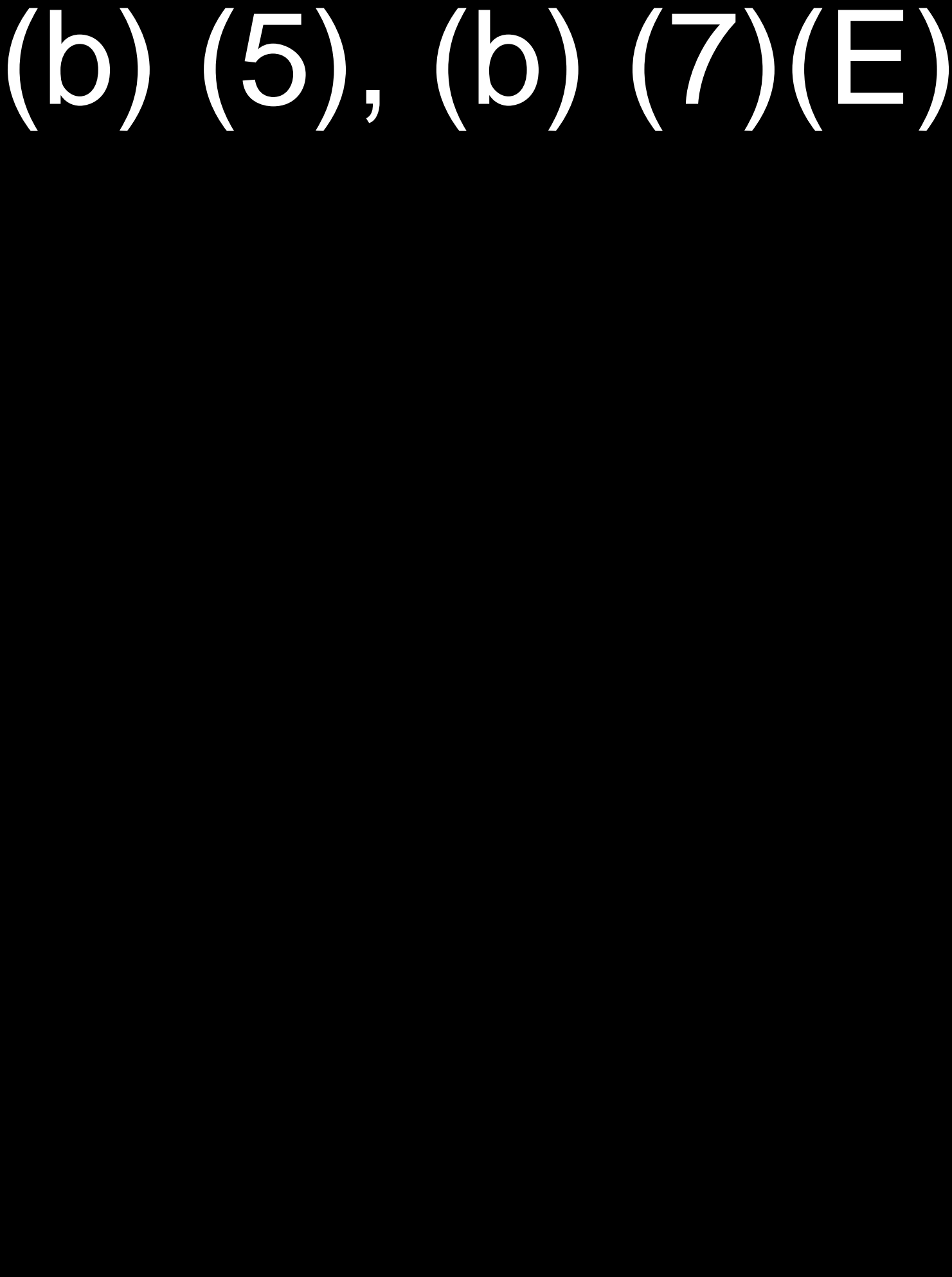
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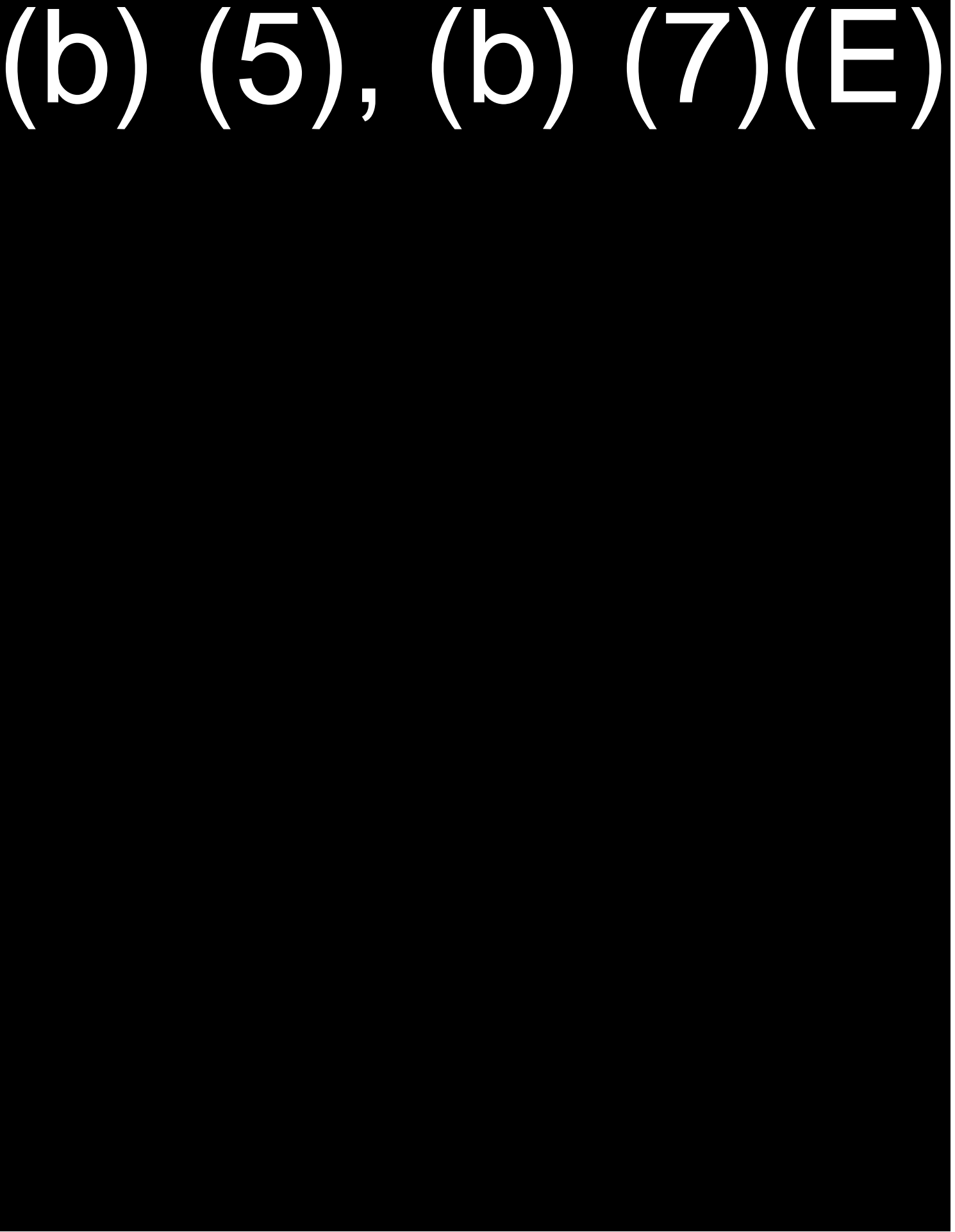
(b) (5), (b) (7)(E)



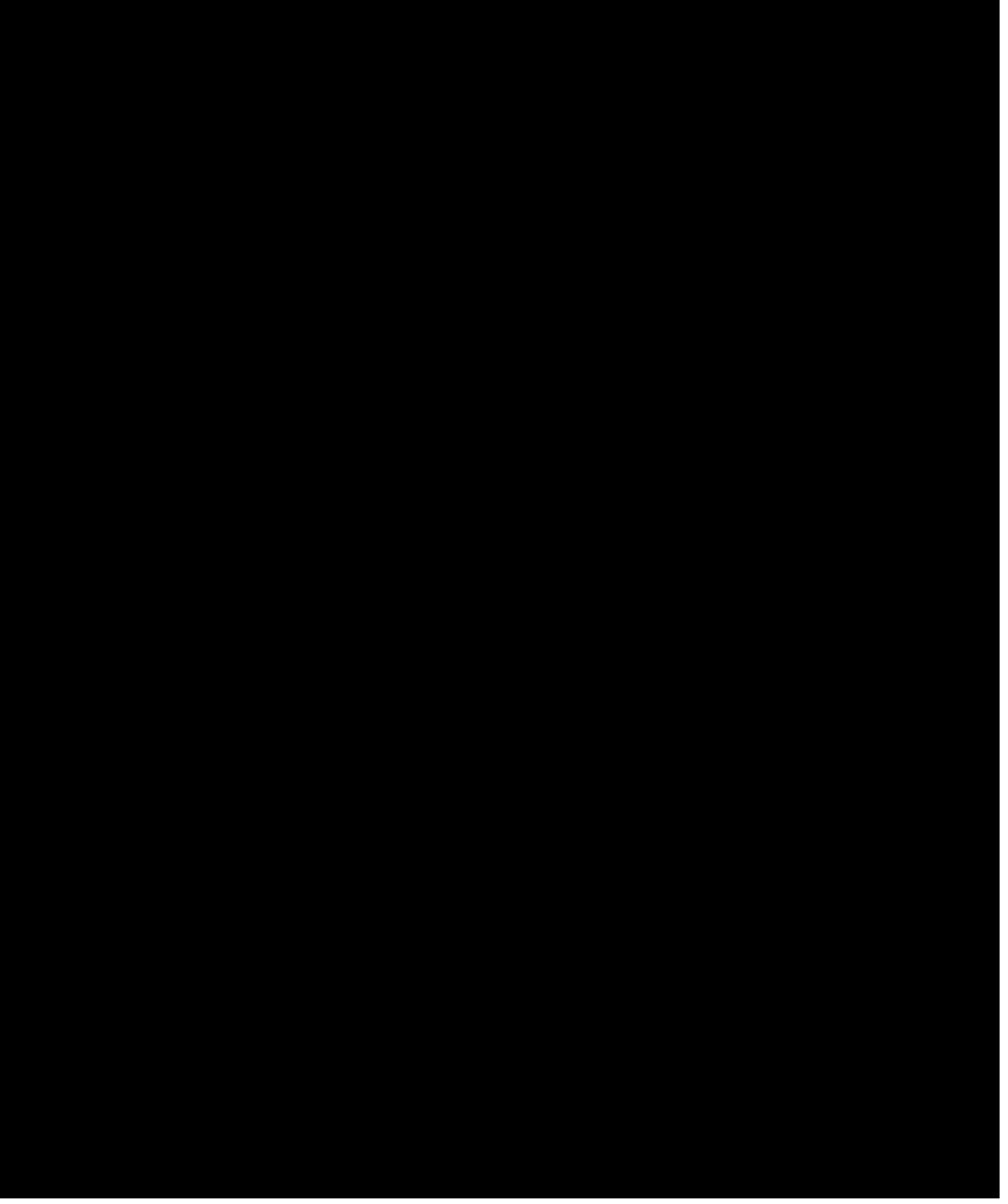
(b) (5), (b) (7)(E)



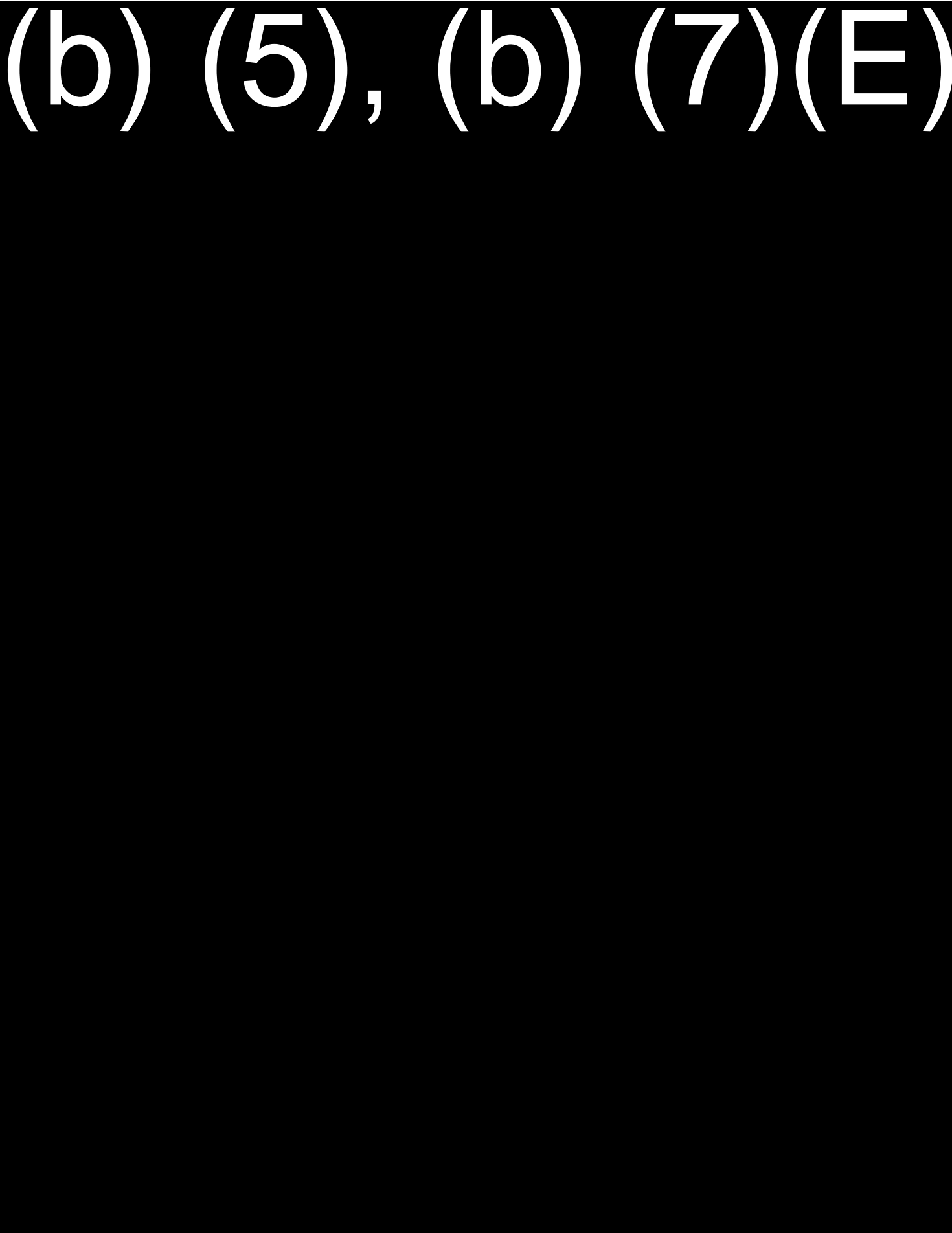
(b) (5), (b) (7)(E)



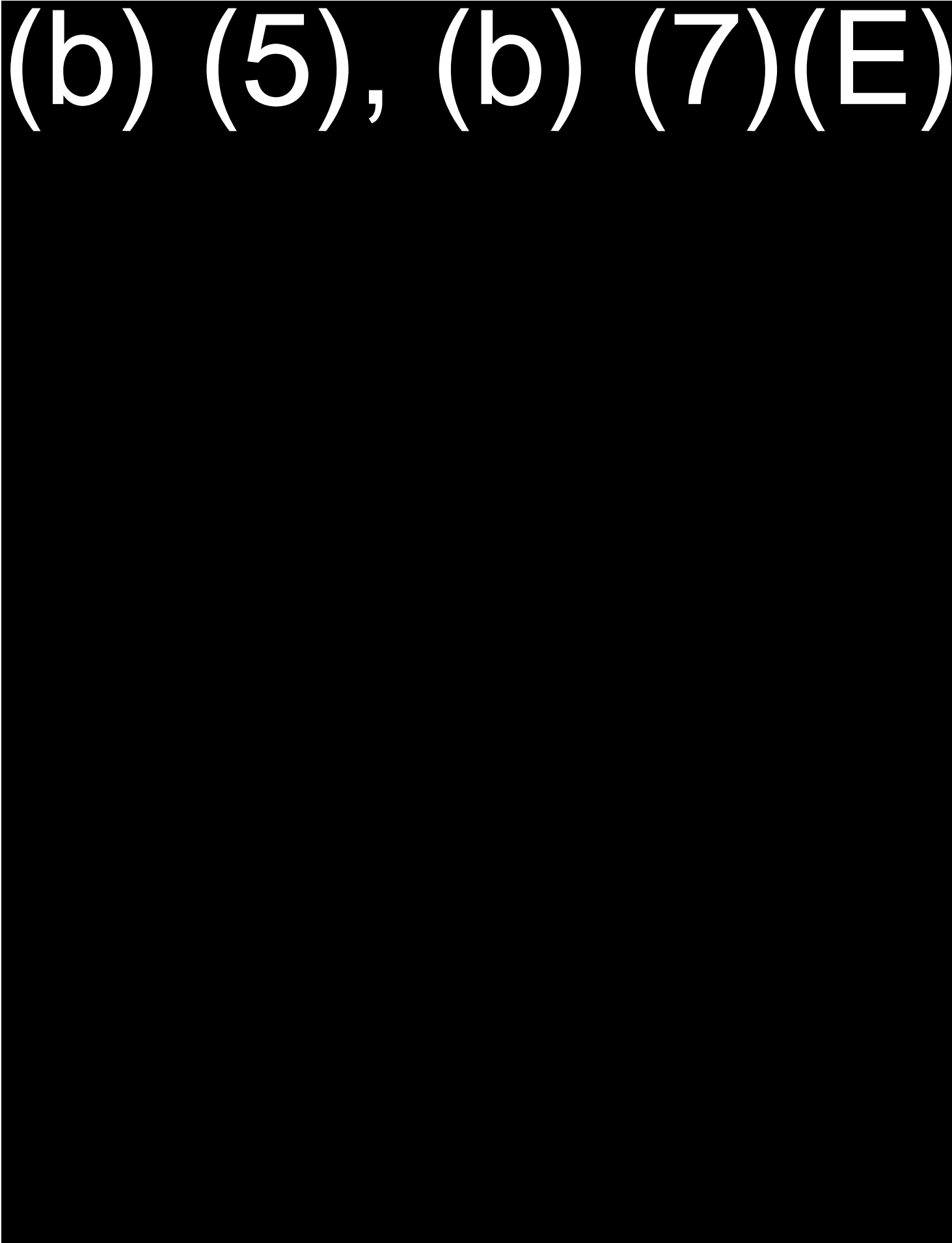
(b) (5), (b) (7)(E)



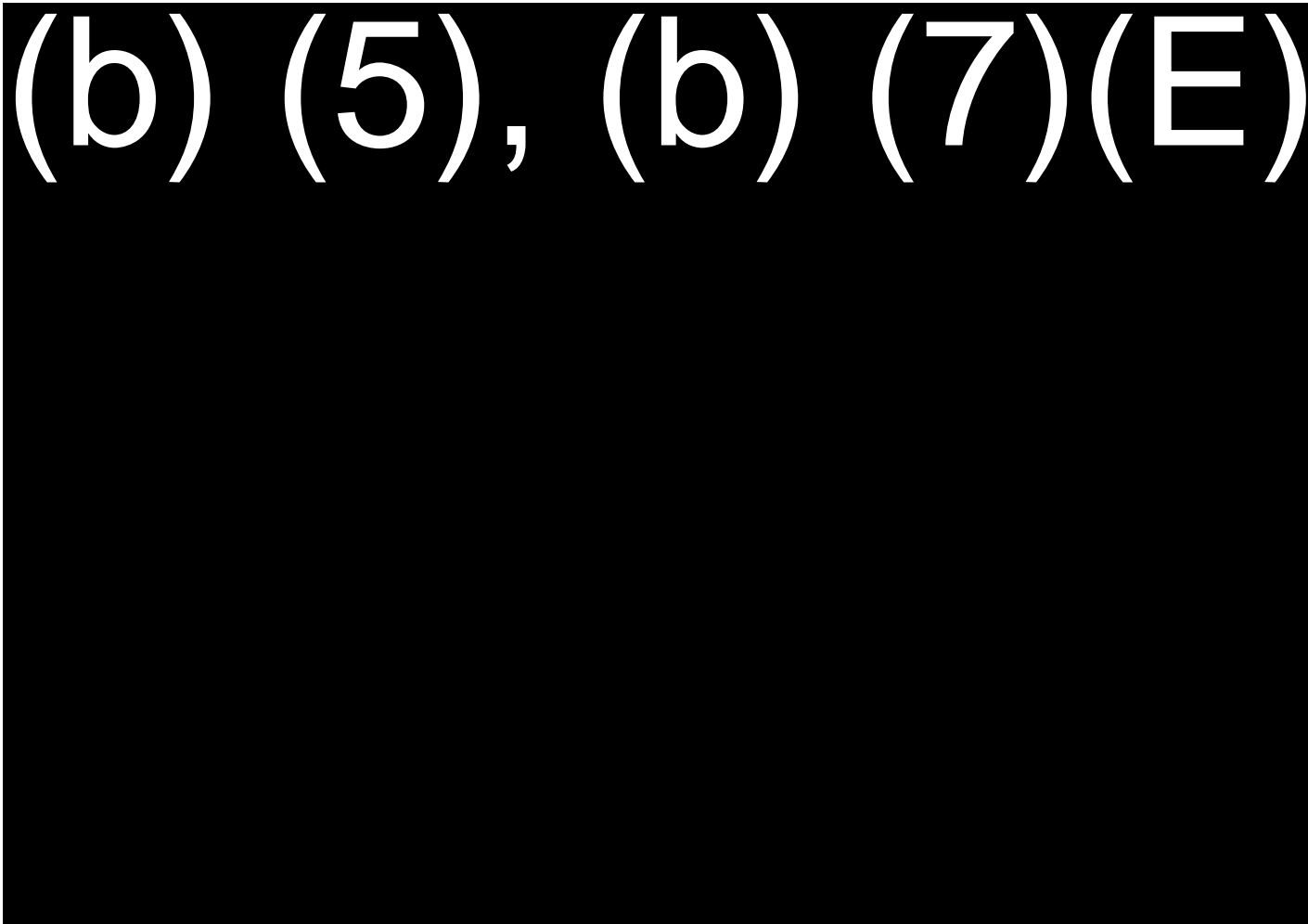
(b) (5), (b) (7)(E)



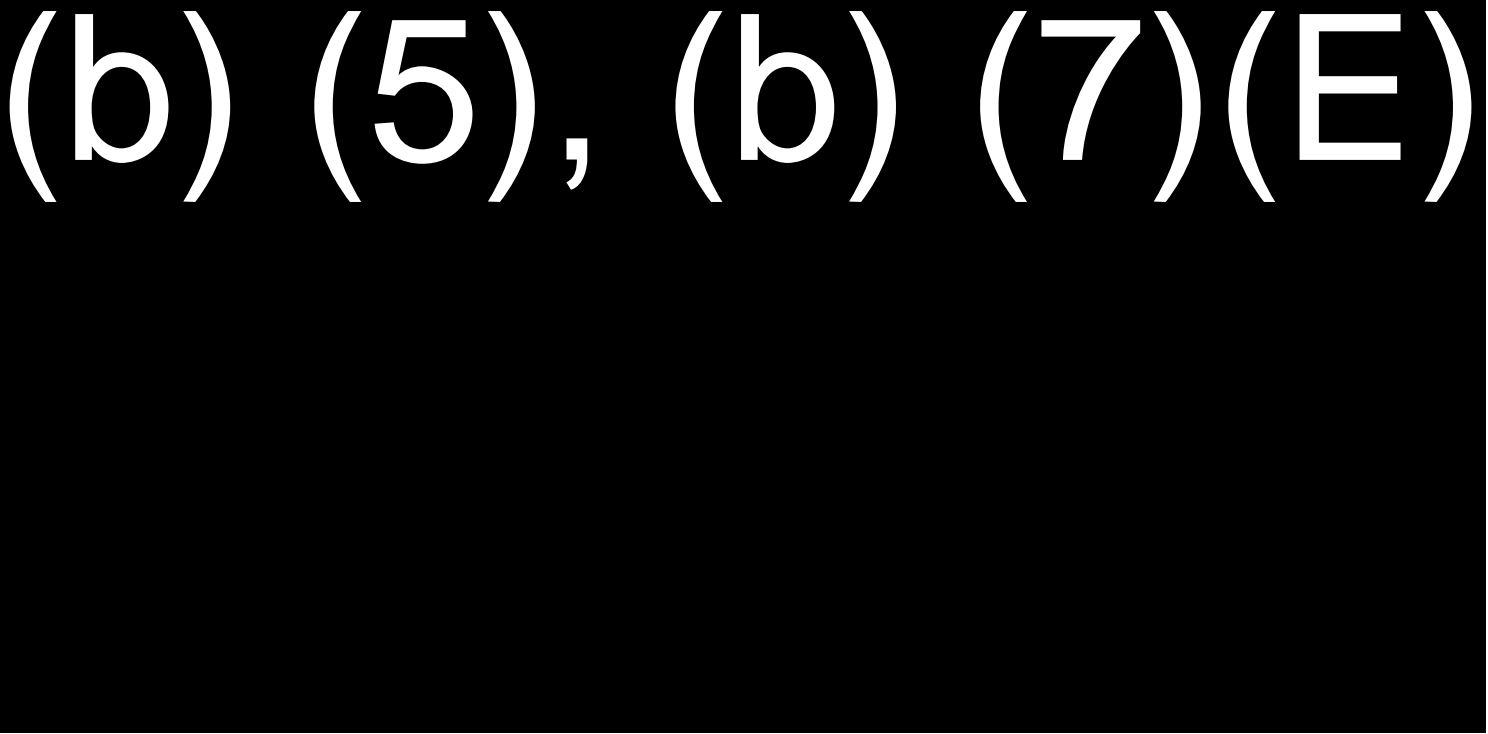
(b) (5), (b) (7)(E)



(b) (5), (b) (7)(E)



(b) (5), (b) (7)(E)



To: OFAM

Cc:

From:

Sent: Fri 2/2/2018 4:56:21 PM

Subject: RE: 102336-SWB Wall Meeting with ORMD

[HSBP1017R0023 Other Border Wall RFP A008.pdf](#)

[HSBP1017R0022 Solid Concrete Wall RFP A008.pdf](#)

(b) (6), (b) (7)(C)

So on the first bullet, I emailed a lot of the historical files from that time so (b) (6), (b) (7)(C) has it.

(b) (5)

Second one – here are the specs from the 2 RFPs. (Attached as well – page 65 of each)

“Other” Barrier:

Threshold Requirements

(b) (7)(E)

Objective Requirements:

(b) (7)(E)

Concrete Barrier:

Threshold Requirements

(b) (7)(E)

(b) (7)(E)

Objective Requirements

(b) (7)(E)

(b) (6), (b) (7)(C)

Portfolio Management and Analysis Branch
Border Patrol and Air and Marine PMO
Mobile: (b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)

Sent: Tuesday, January 30, 2018 4:13 PM

To: (b) (6), (b) (7)(C)

Cc: (b) (6), (b) (7)(C)

Subject: RE: 102336-SWB Wall Meeting with ORMD

Thank you (b) (6), (b) (7)(C) – cc'ing (b) (6), (b) (7)(C) for awareness.

(b) (6), (b) (7)(C)

Director, Business Operations Division
Border Patrol & Air and Marine Program Management Office
Facilities Management and Engineering
Office of Facilities and Asset Management
Mobile: (b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)

Sent: Tuesday, January 30, 2018 3:59 PM

To: (b) (6), (b) (7)(C)

Subject: FW: 102336-SWB Wall Meeting with ORMD

FYI – I forwarded this to tasking and am working it.

(b) (6), (b) (7)(C)

Portfolio Management and Analysis Branch
Border Patrol and Air and Marine PMO
Mobile: (b) (6), (b) (7)(C)

From: Davis, Ashley V [mailto:(b) (6)]

Sent: Tuesday, January 30, 2018 10:11 AM

To: USBP-AUDIT-TEAM (b) (7)(E) Sarapu, Leslie <(b) (6)>

Cc: (b) (6), (b) (7)(C) Henriquez, Elia (Jeanette) J (b) (6) BP 017307

Subject: RE: 102336-SWB Wall Meeting with ORMD

Hi (b) (6), (b) (7)(C)

As we discussed in yesterday's meeting, we'd like to request two items.

(b) (5), (b)(6); (b)(7)(C)

Please provide these items by 2/14/18.

Thanks!

Ashley Davis

From: USBP-AUDIT-TEAM (b) (7)(E)
Sent: Monday, January 29, 2018 11:24 AM
To: Sarapu, Leslie; Davis, Ashley V
Cc: USBP-AUDIT-TEAM; (b) (6), (b) (7)(C) Henriquez, Elia (Jeanette) J
Subject: 102336-SWB Wall Meeting with ORMD

Hi Leslie/Ashley,

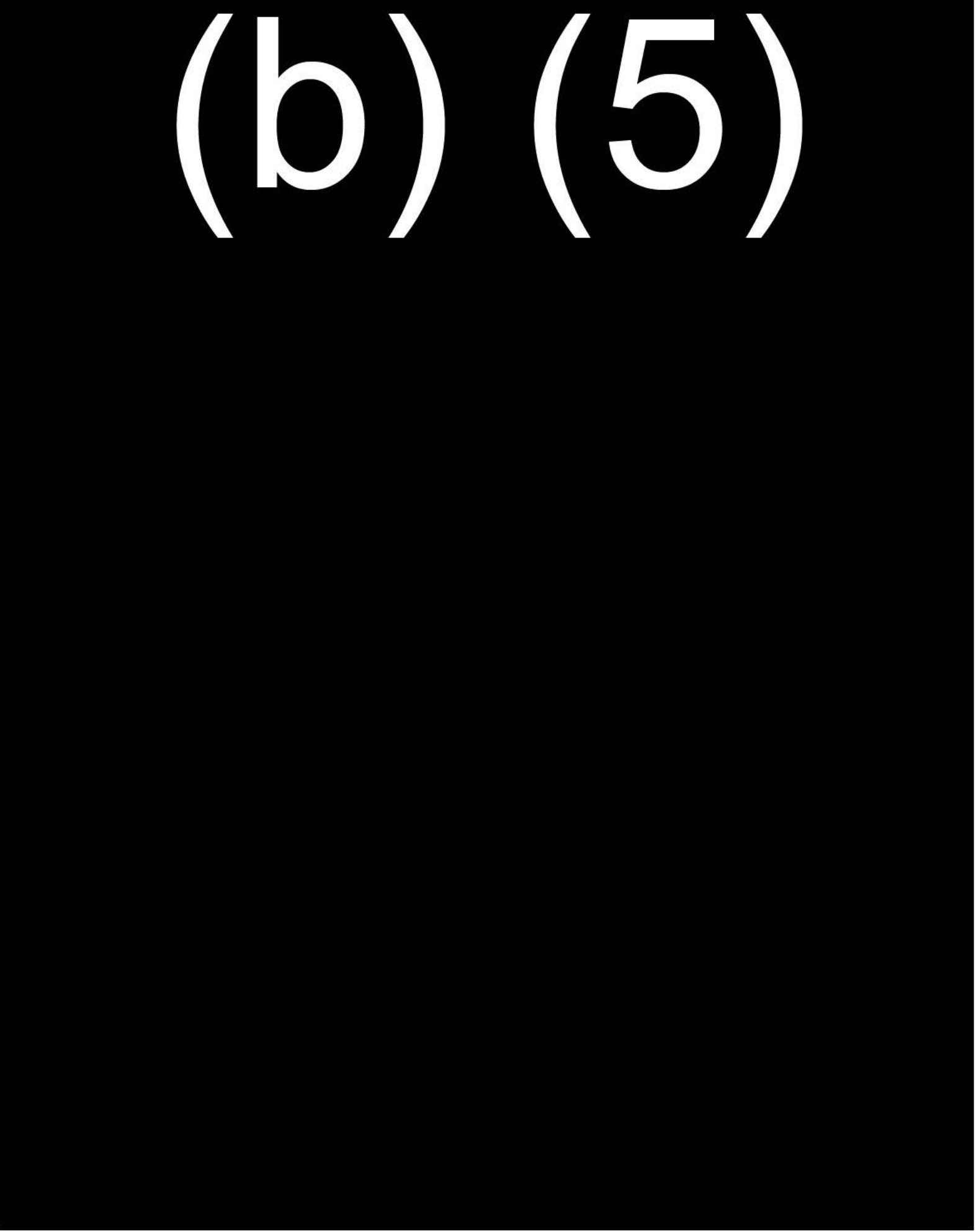
Nice meeting you today. Please find the attached sign in sheet from today's meeting for your records.

Thank you,

(b) (6), (b) (7)(C)

Program Manager/Lead USBP Audit Liaison
Strategic Planning & Analysis Directorate-Analysis Division
1300 Pennsylvania Ave. N.W., Suite (b) (6), (b) (7)(C)
Washington, D.C. 20229
Office (b) (6), (b) (7)(C)
Mobil (b) (6), (b) (7)(C)
Group Mailbox (b) (7)(E)

(b) (5)

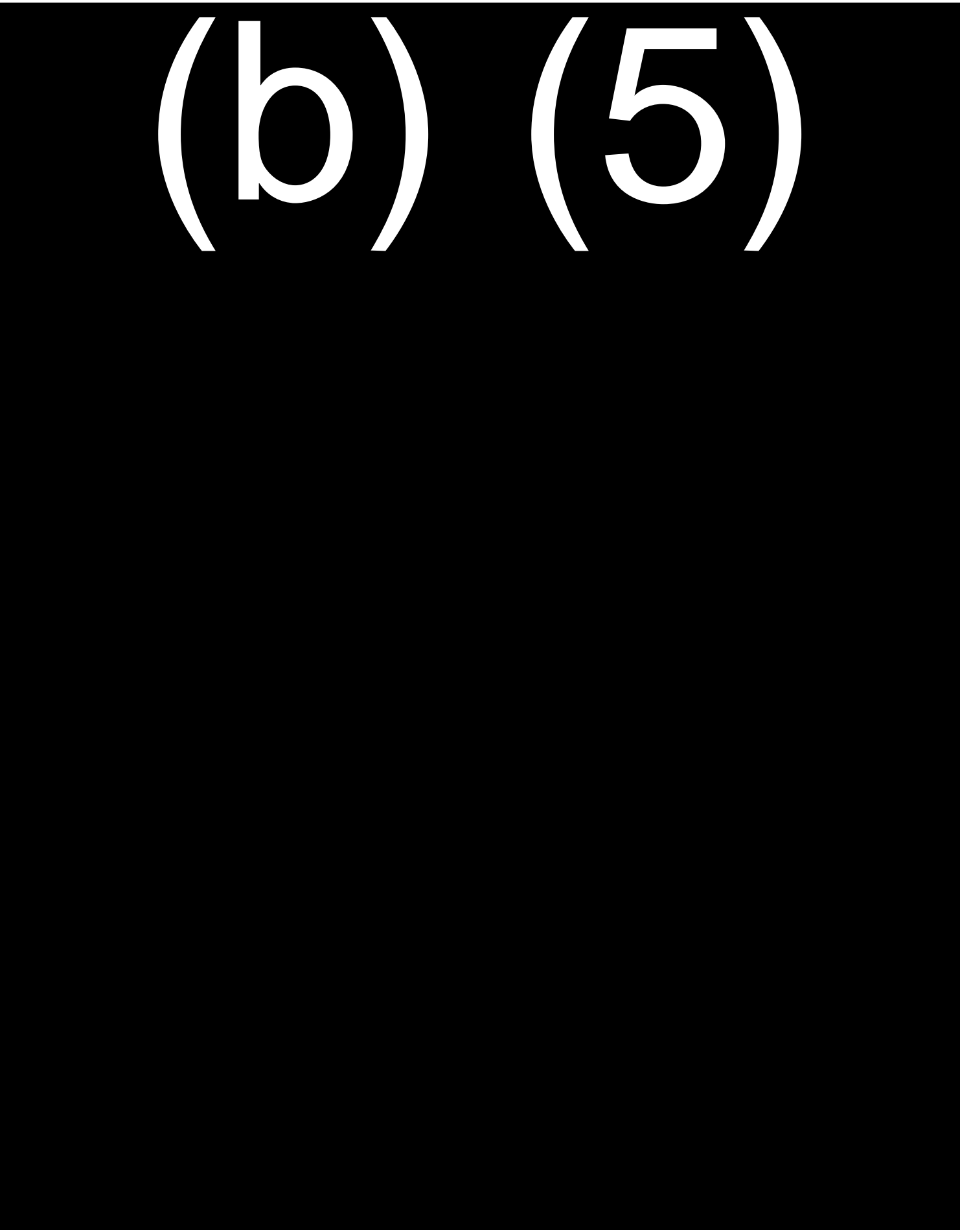


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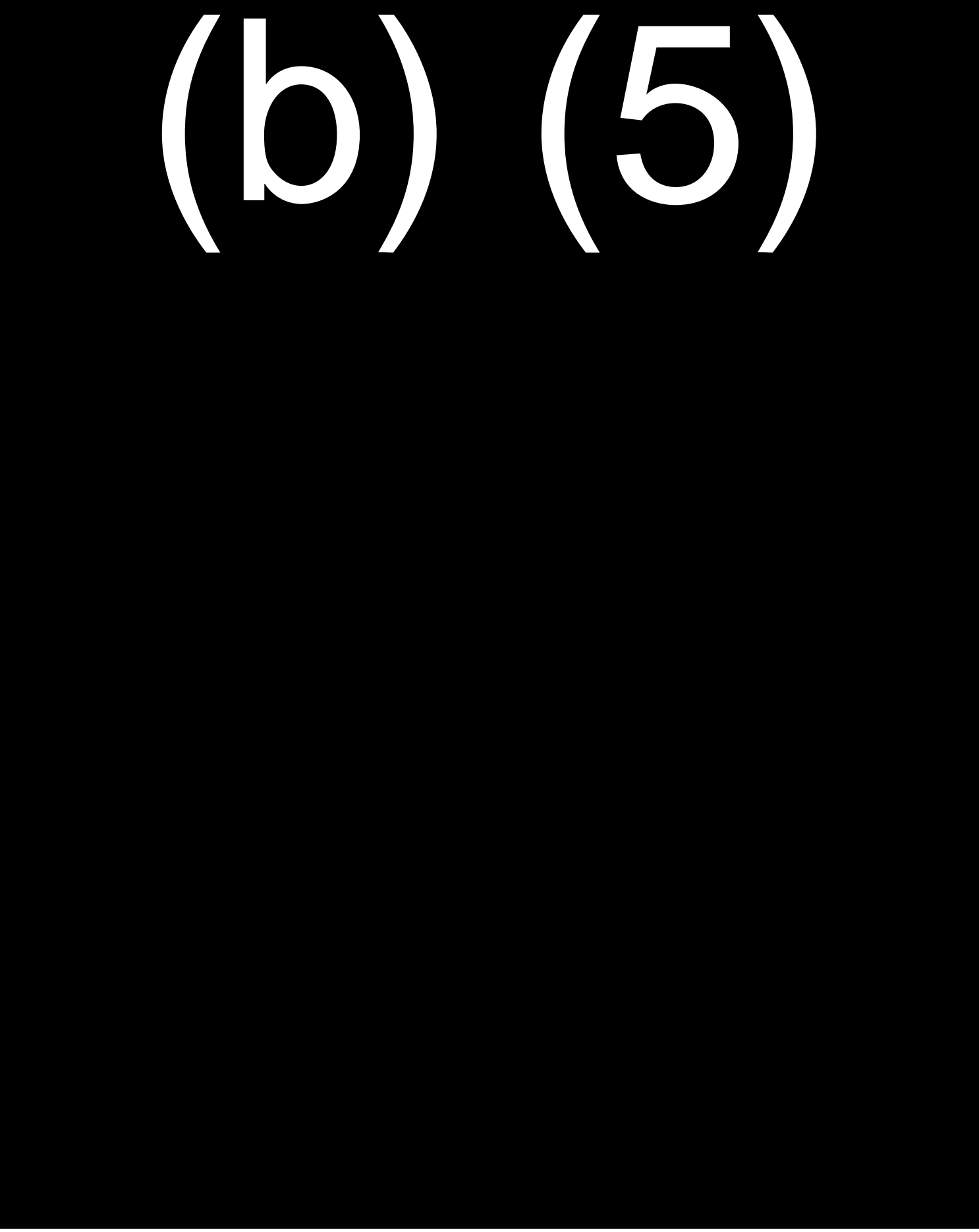
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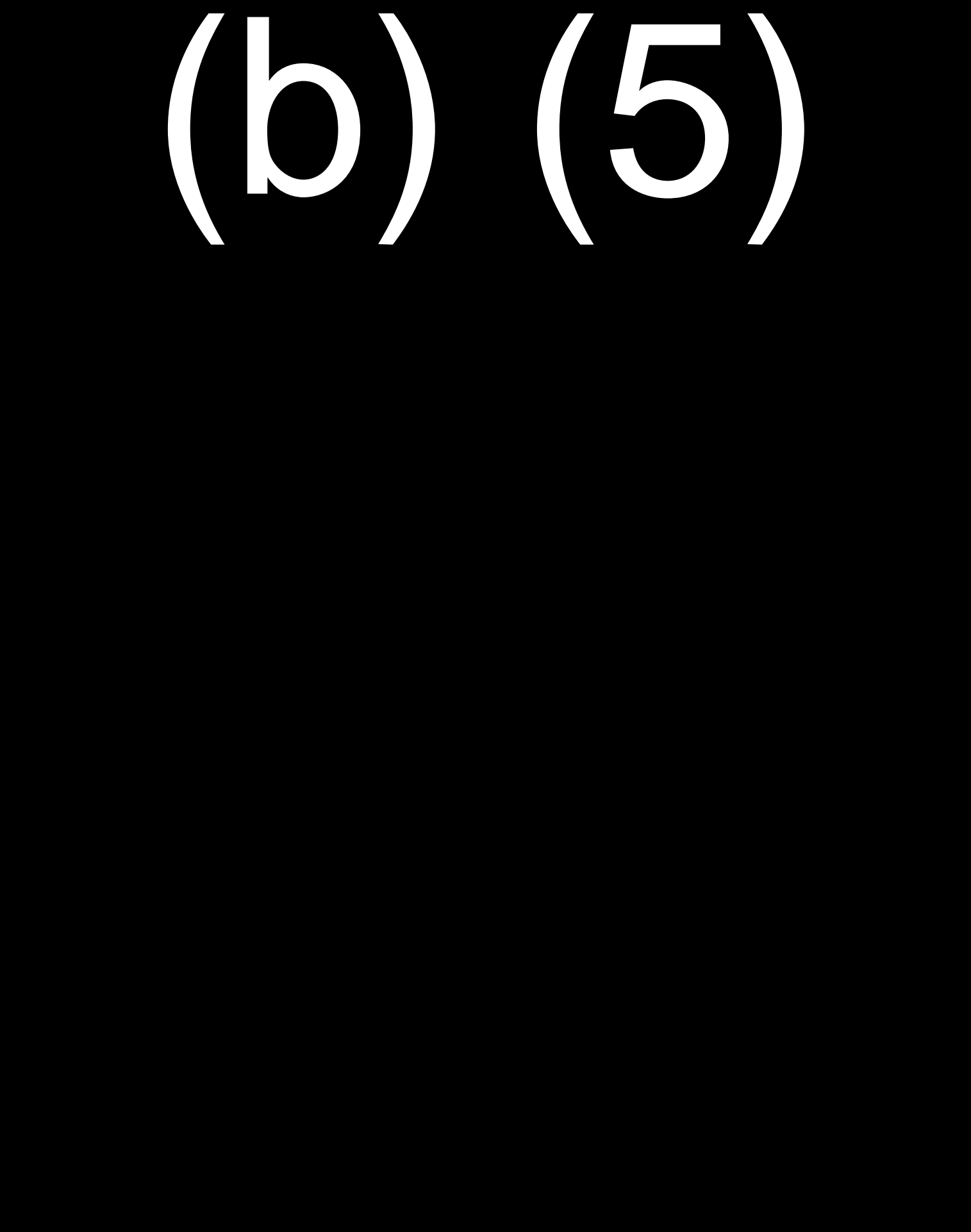
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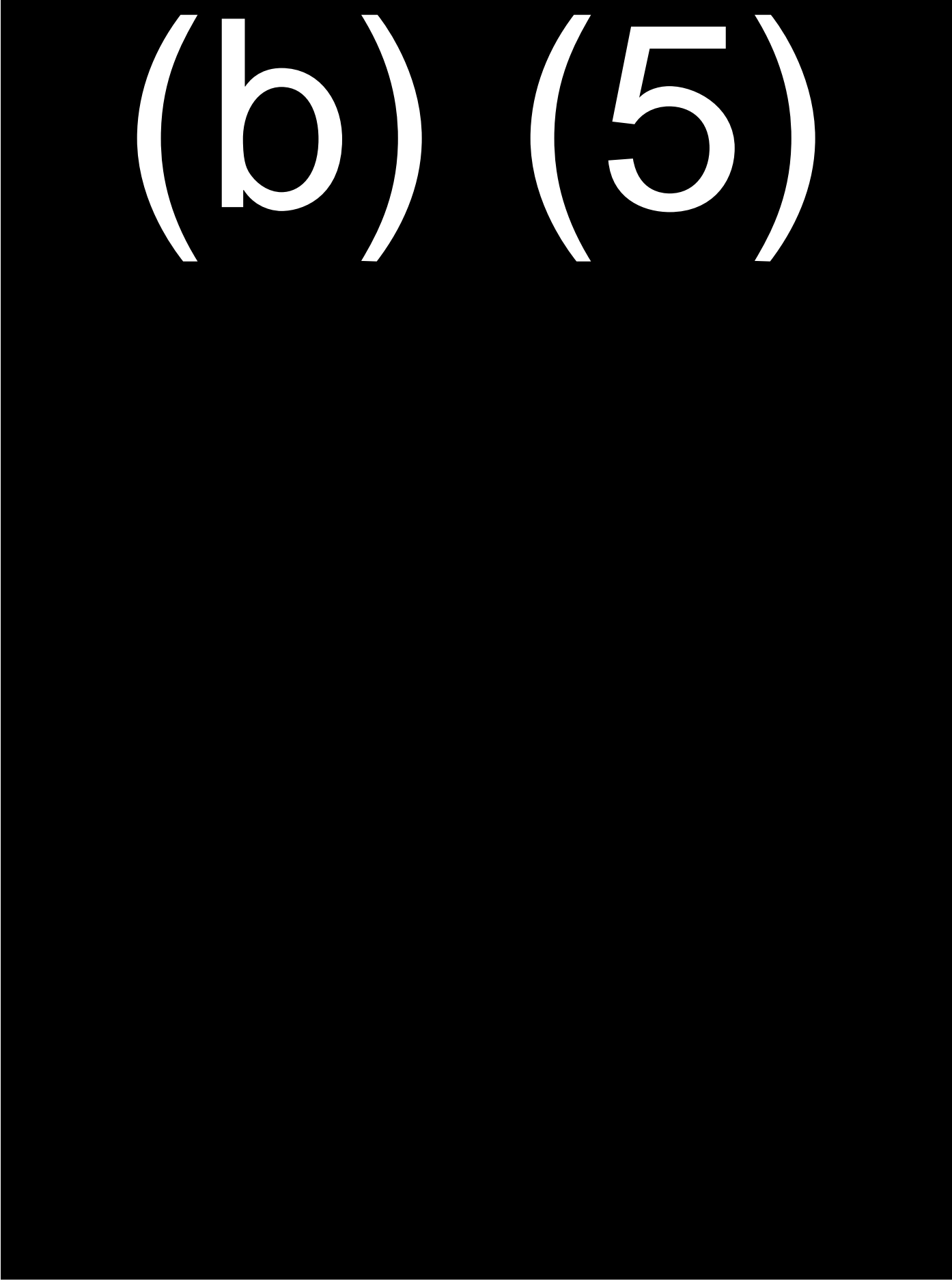
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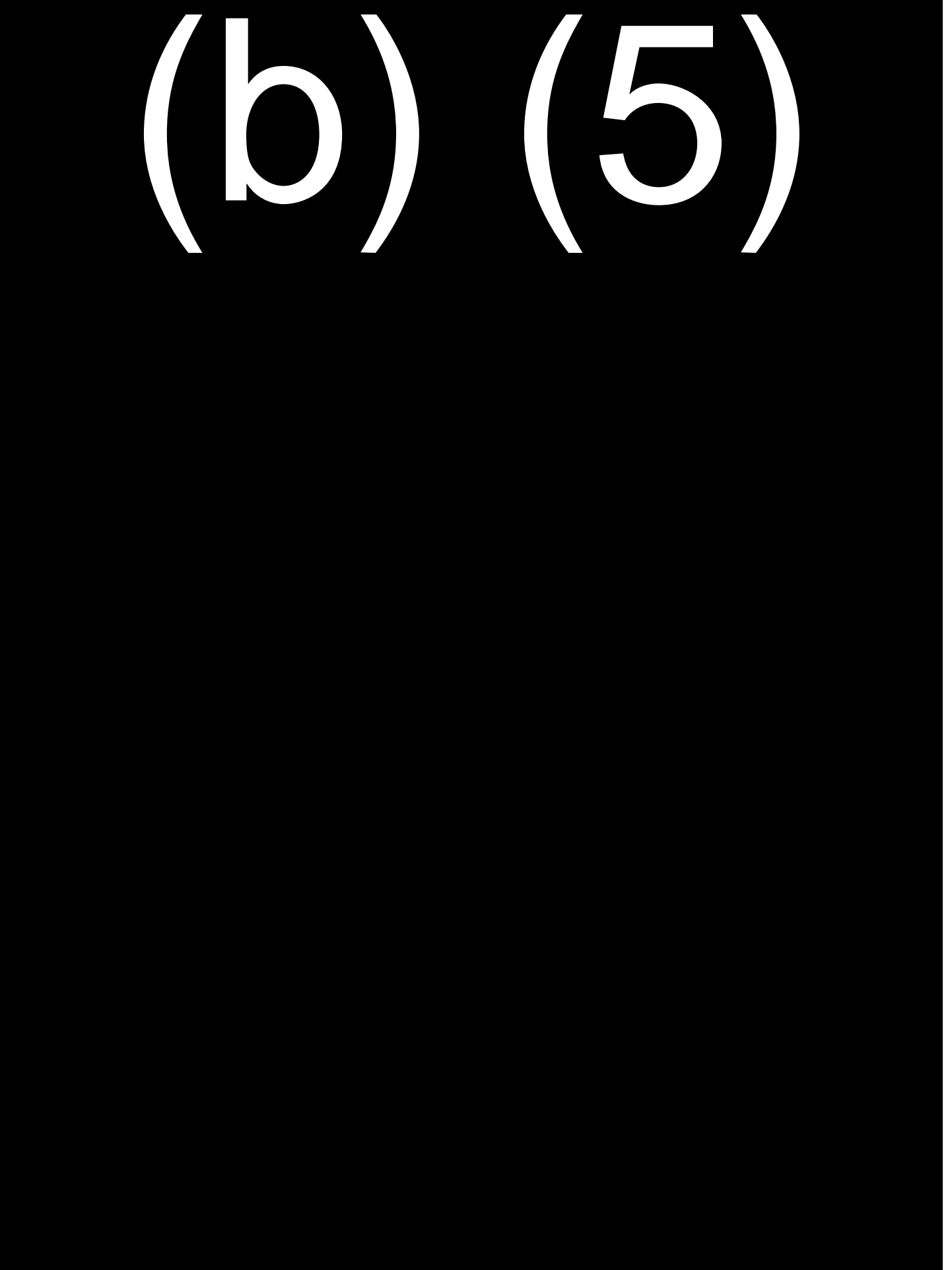
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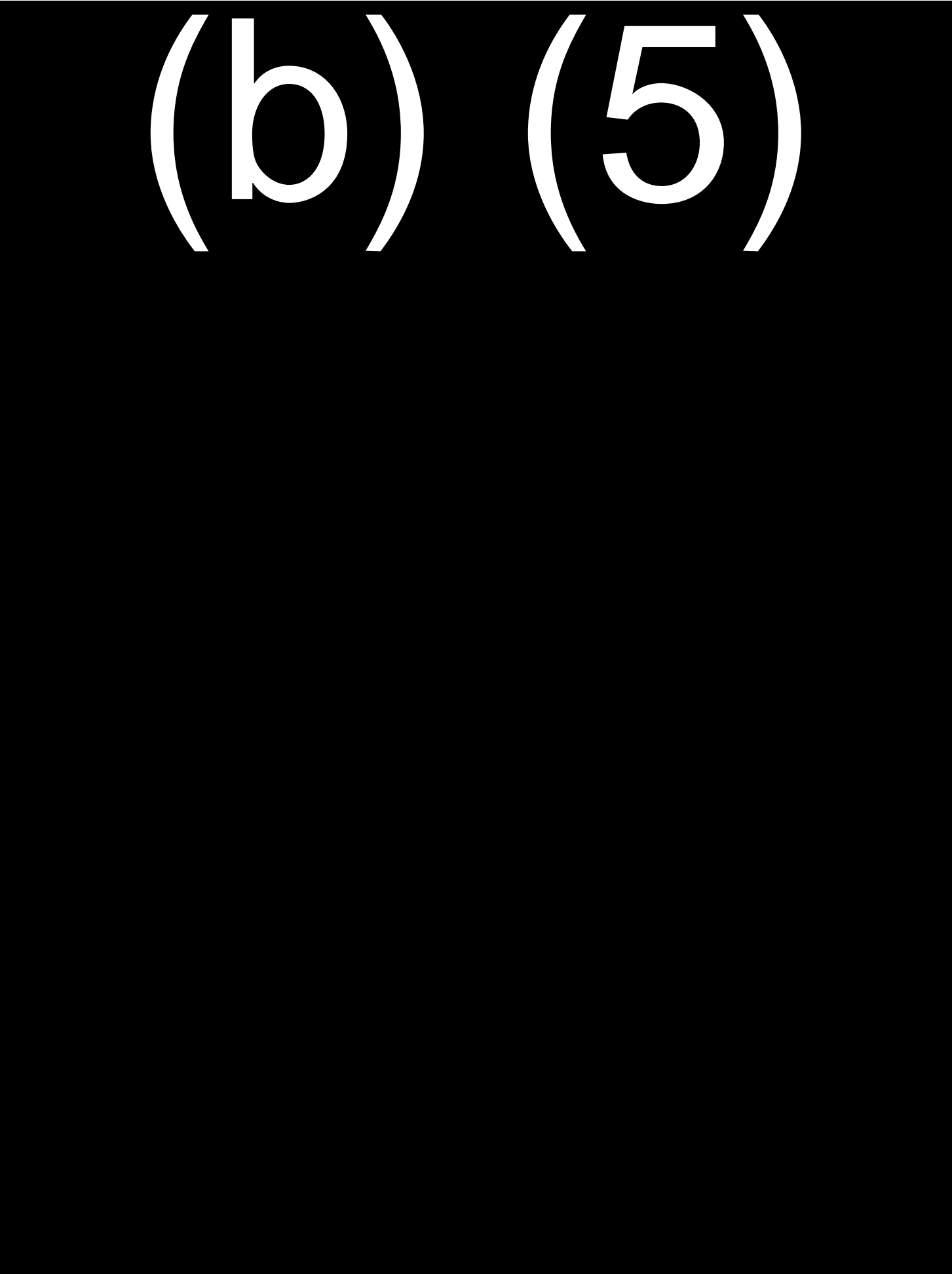
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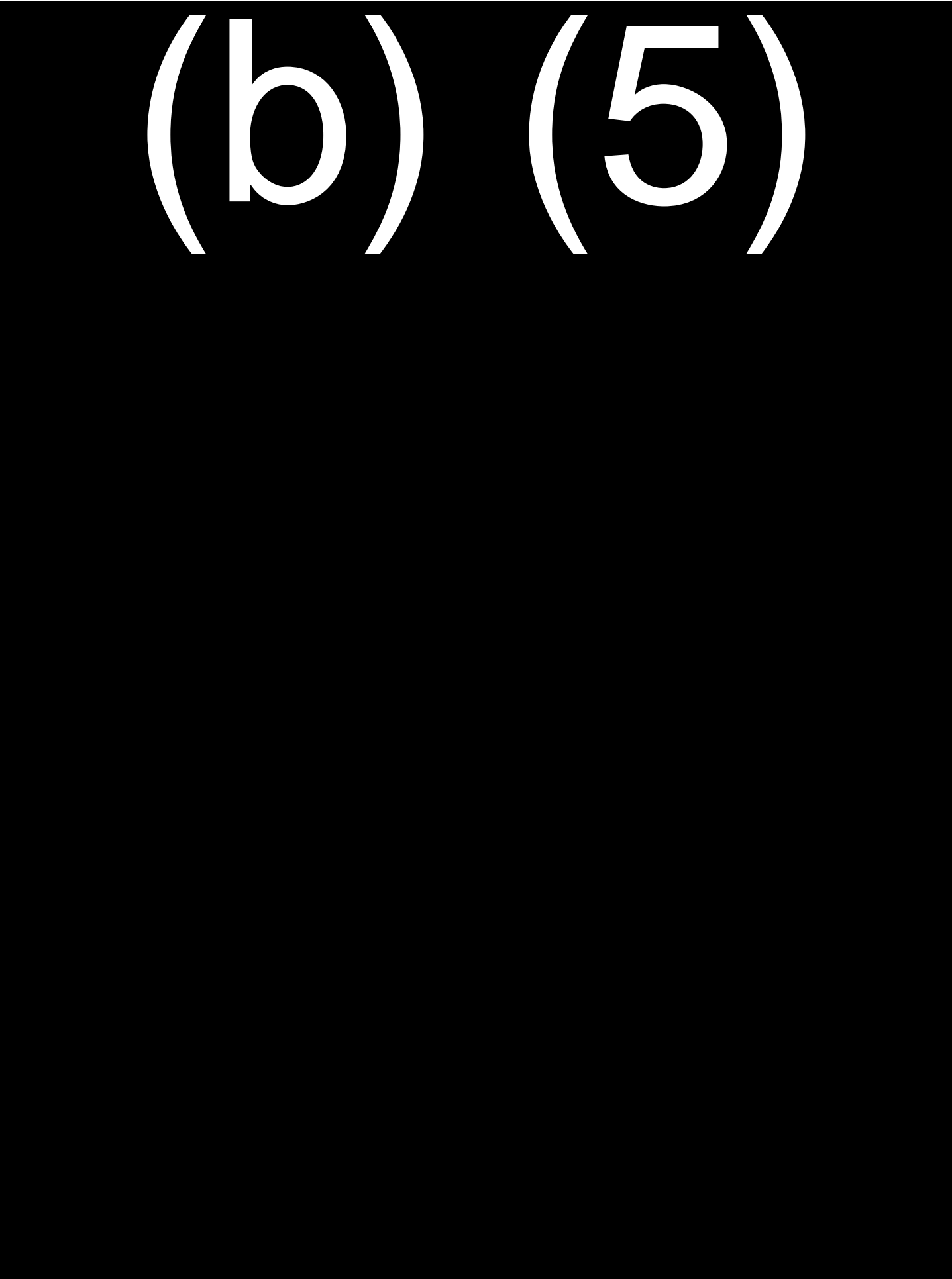
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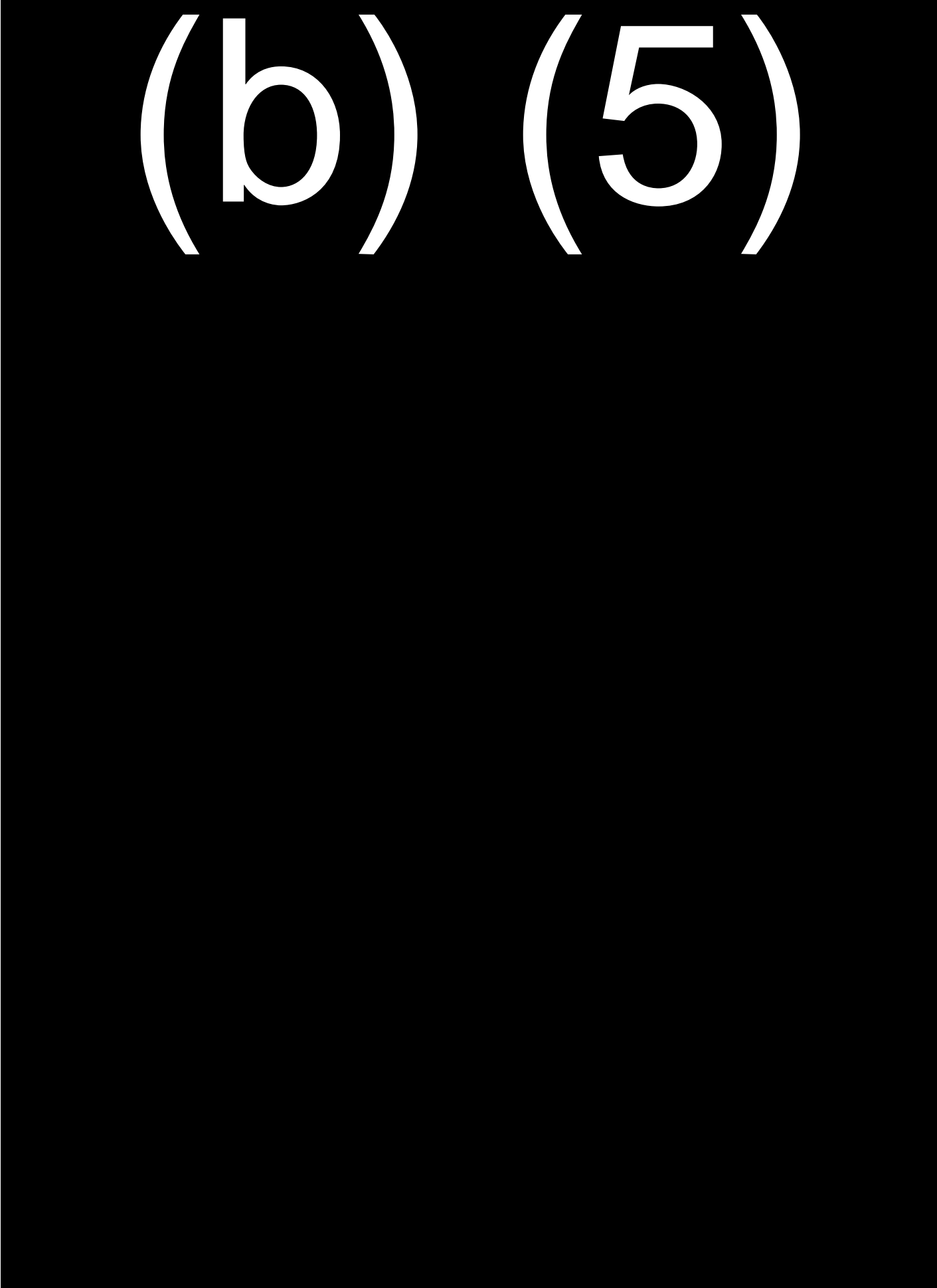
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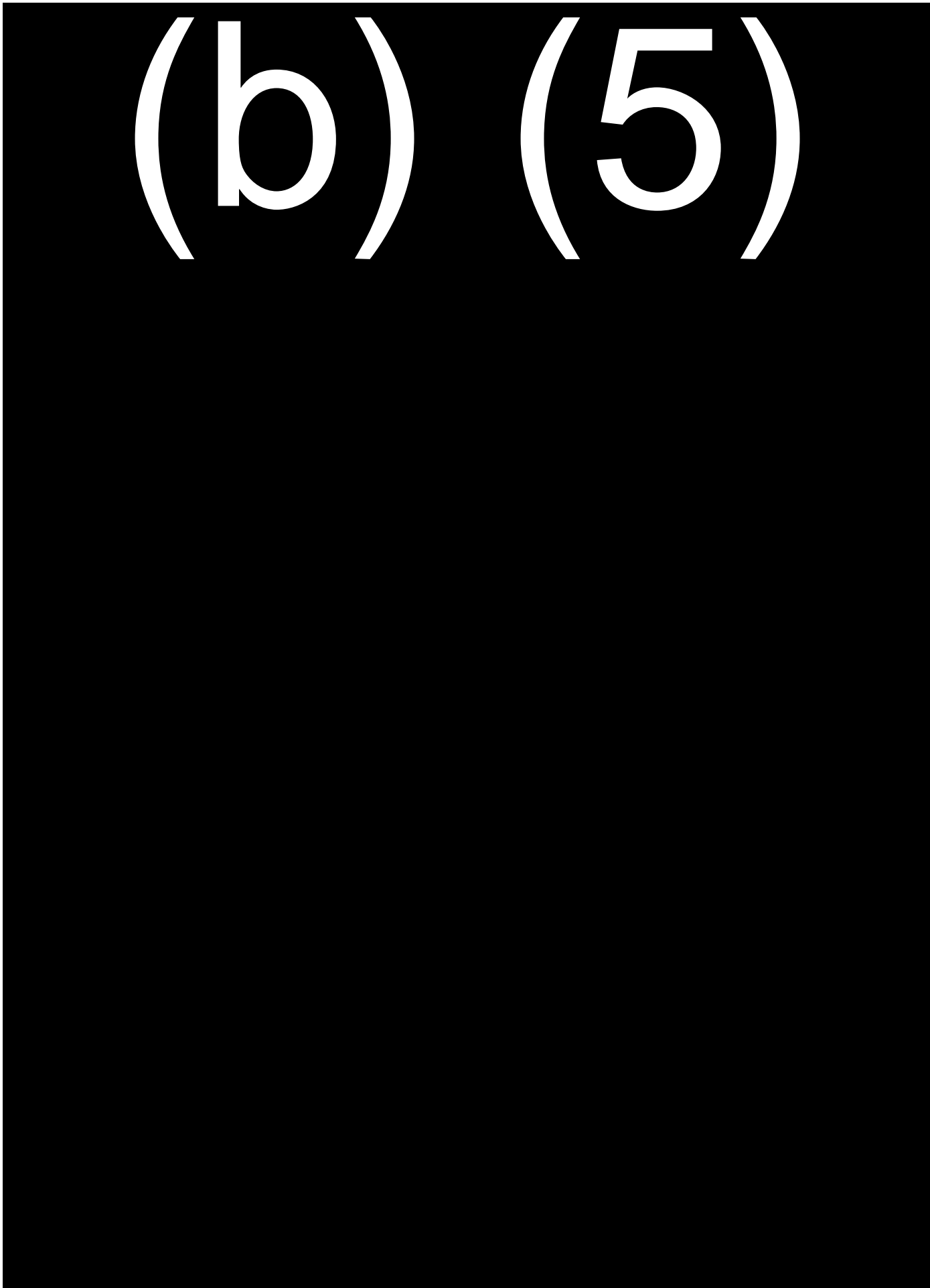
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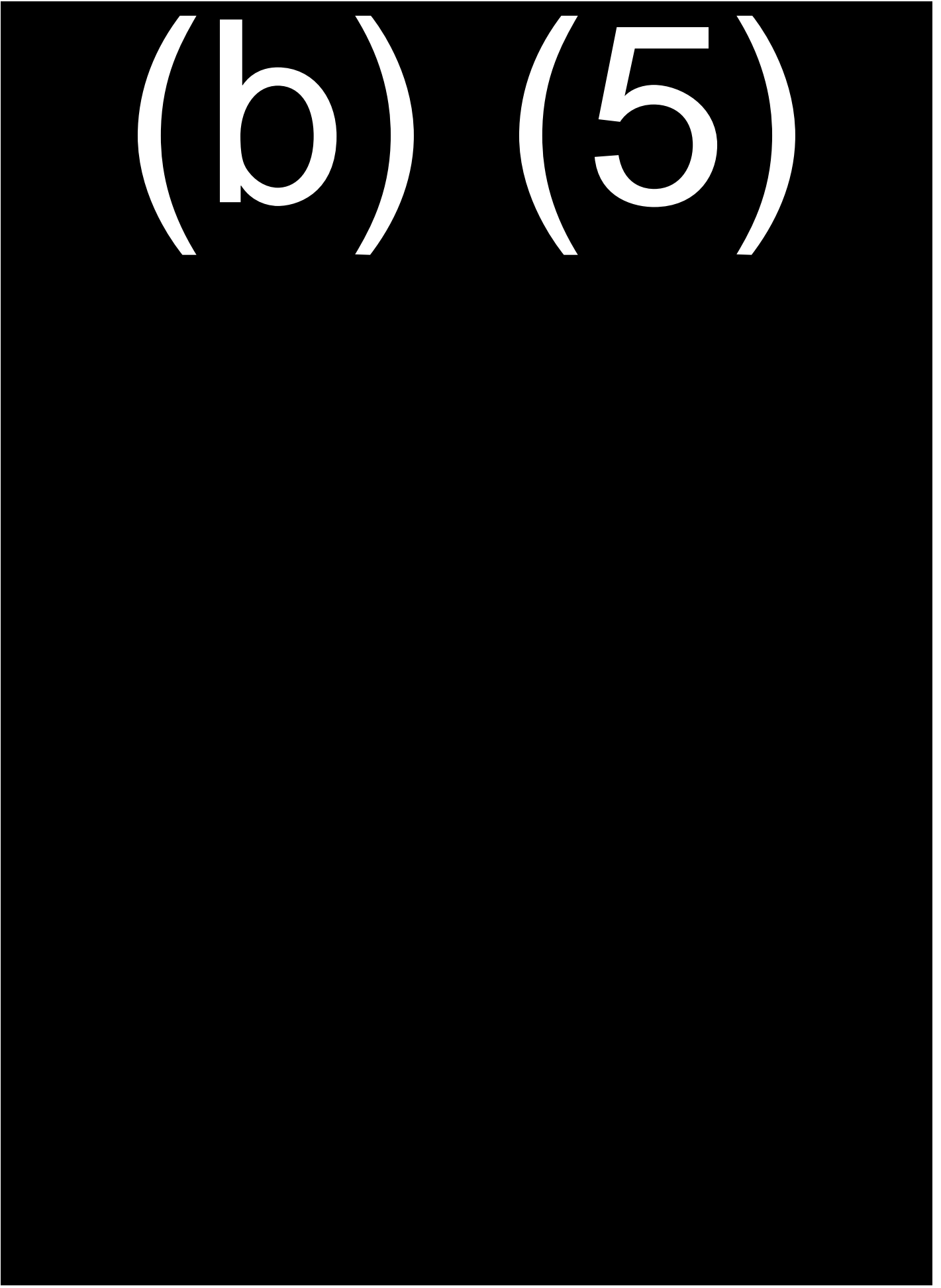
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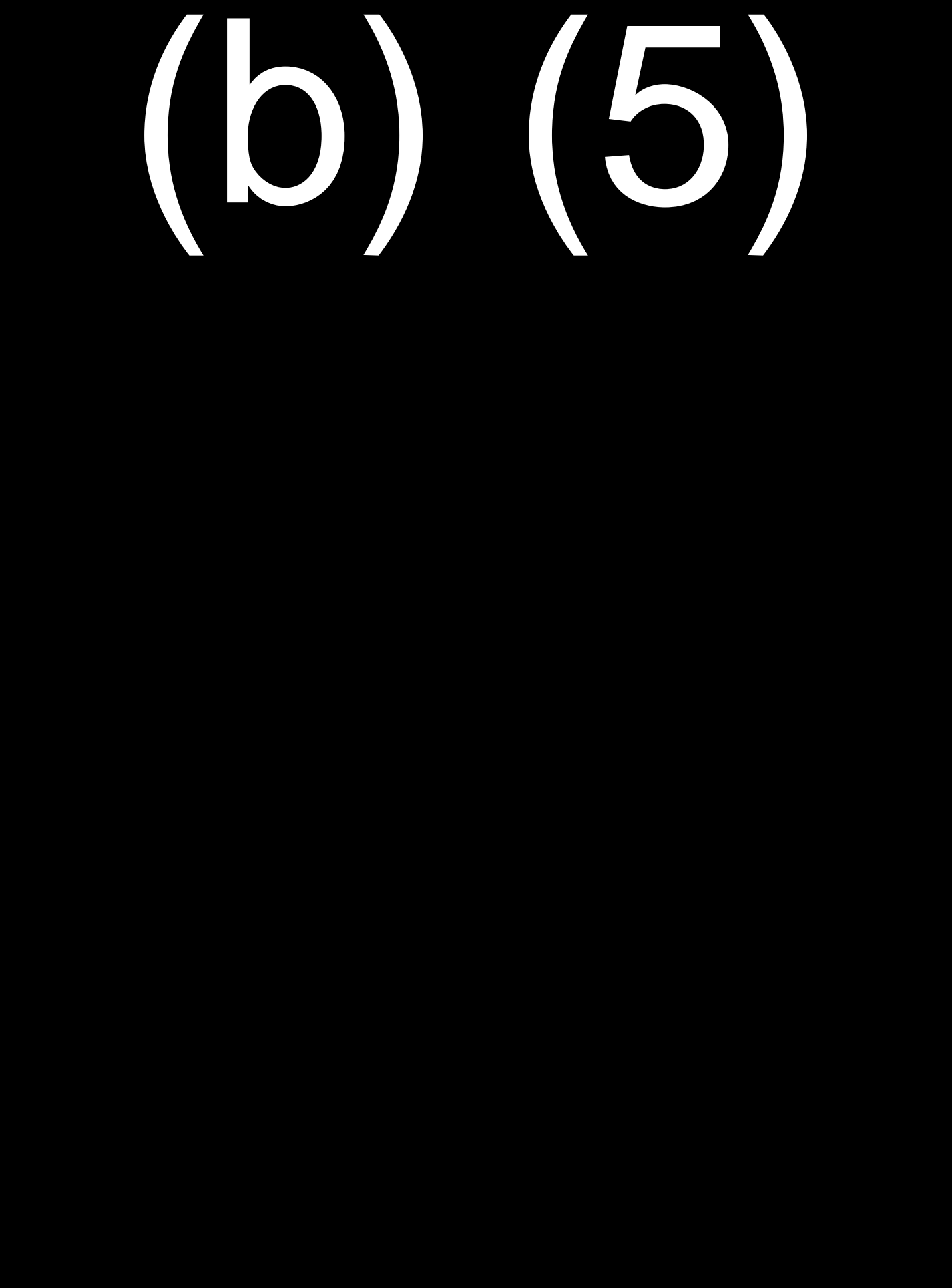
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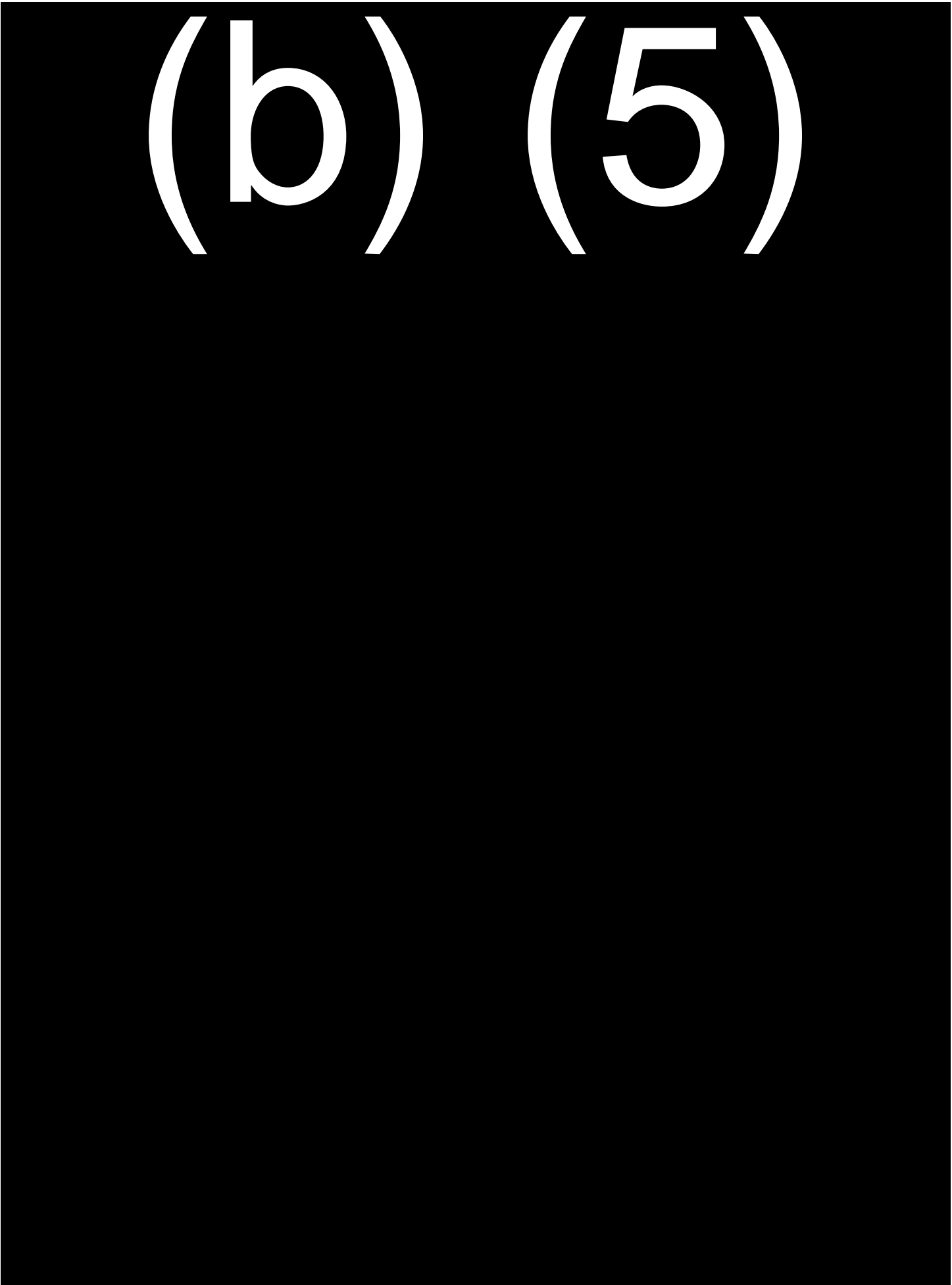
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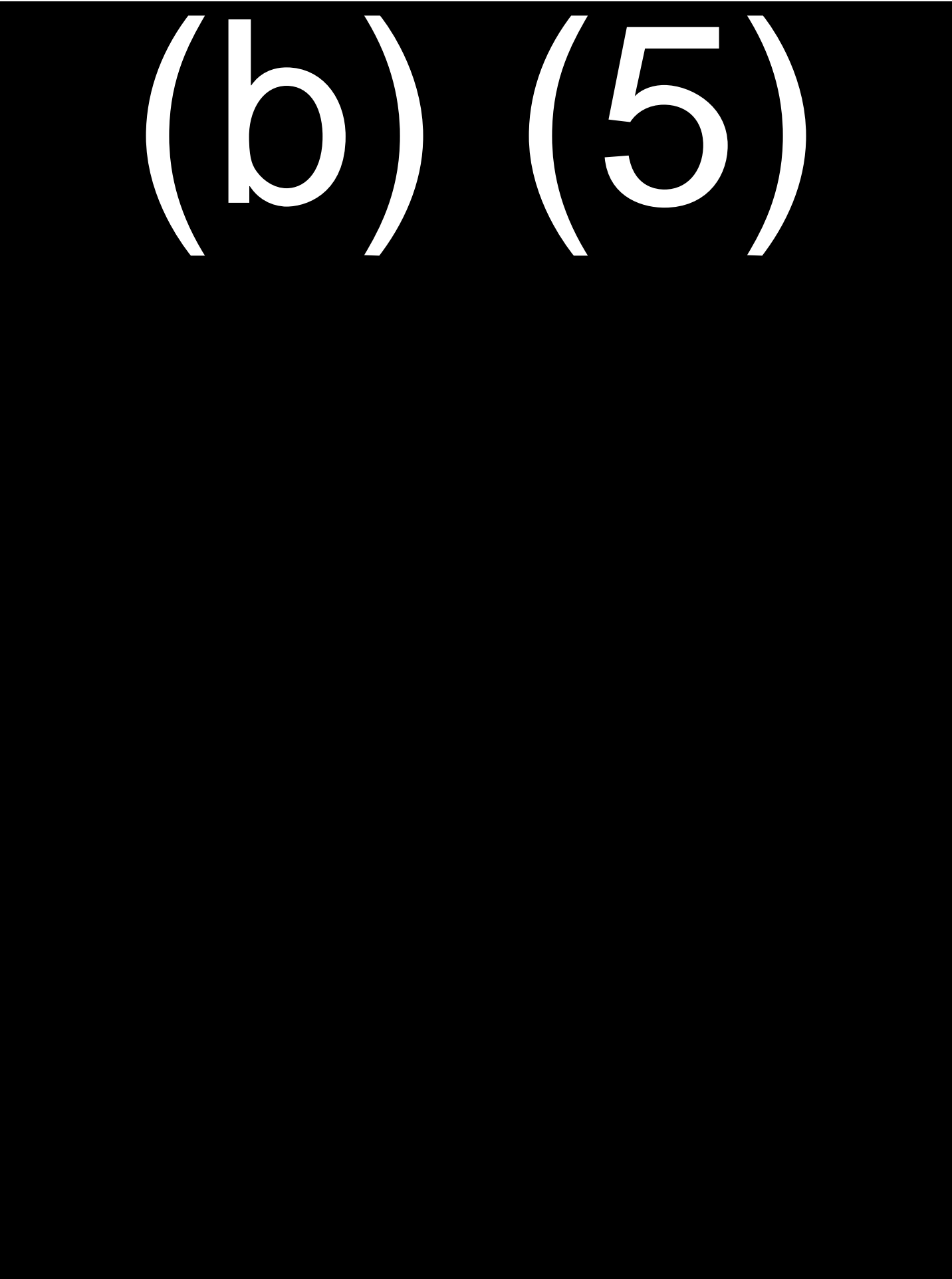
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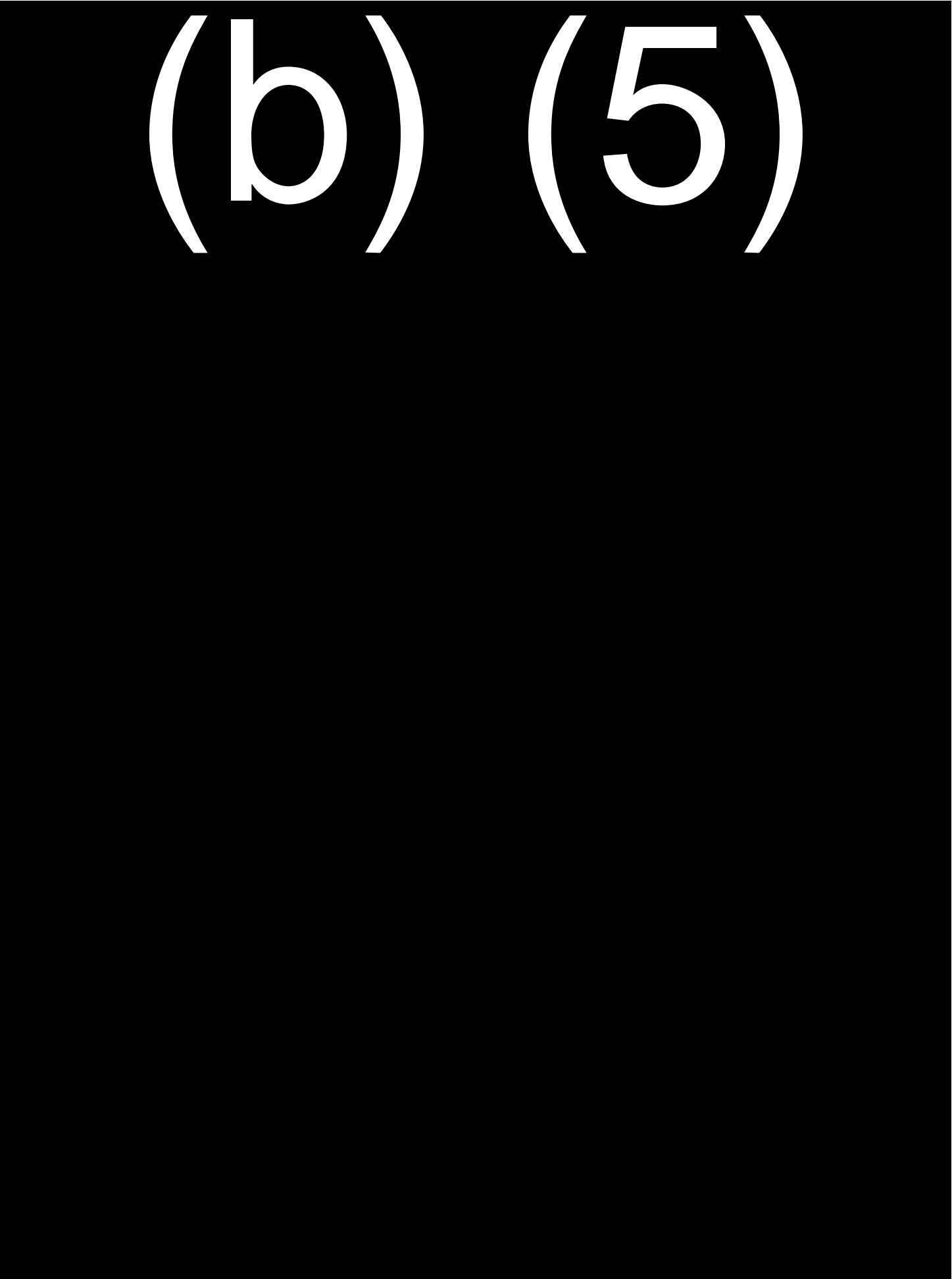
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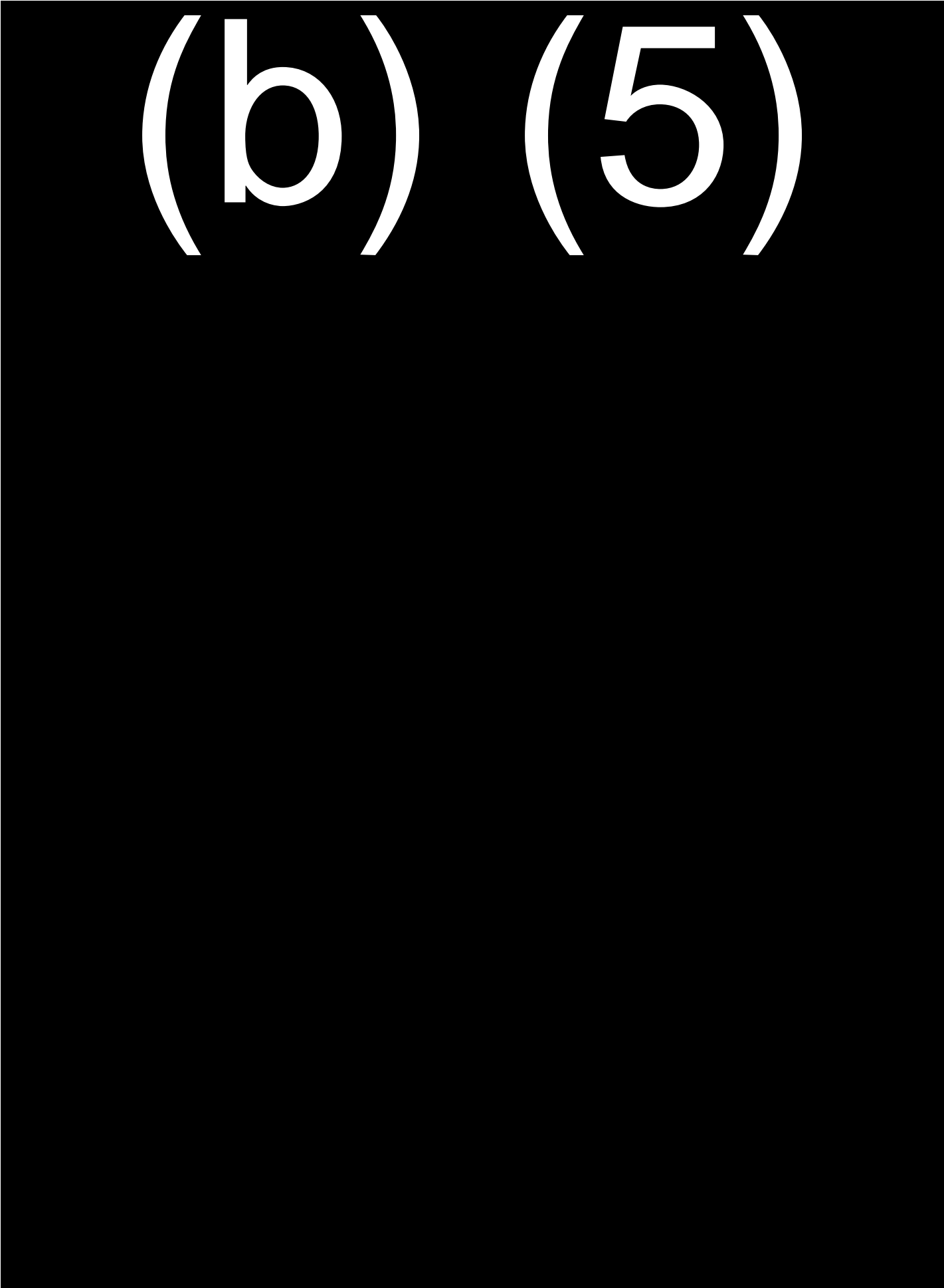
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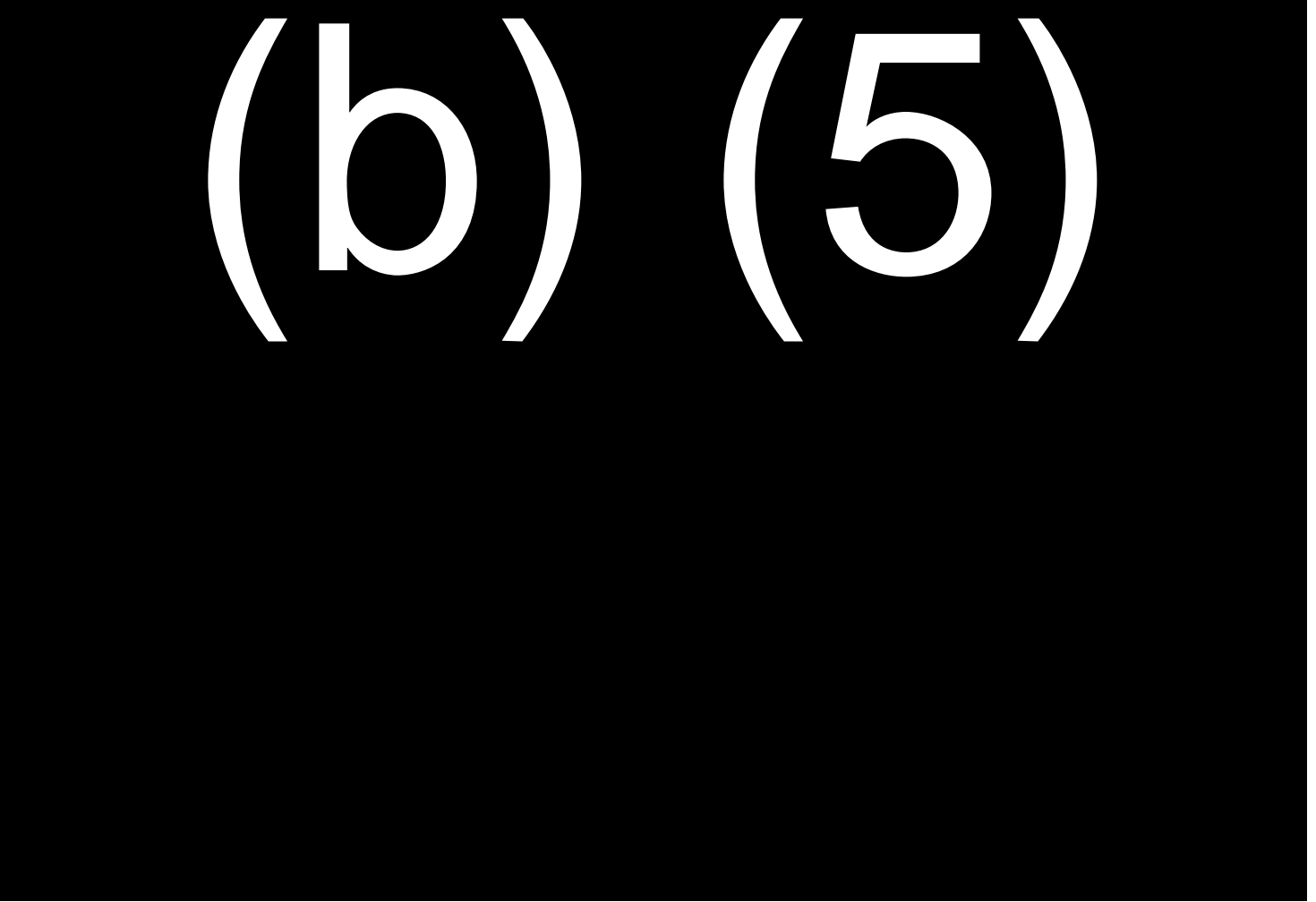


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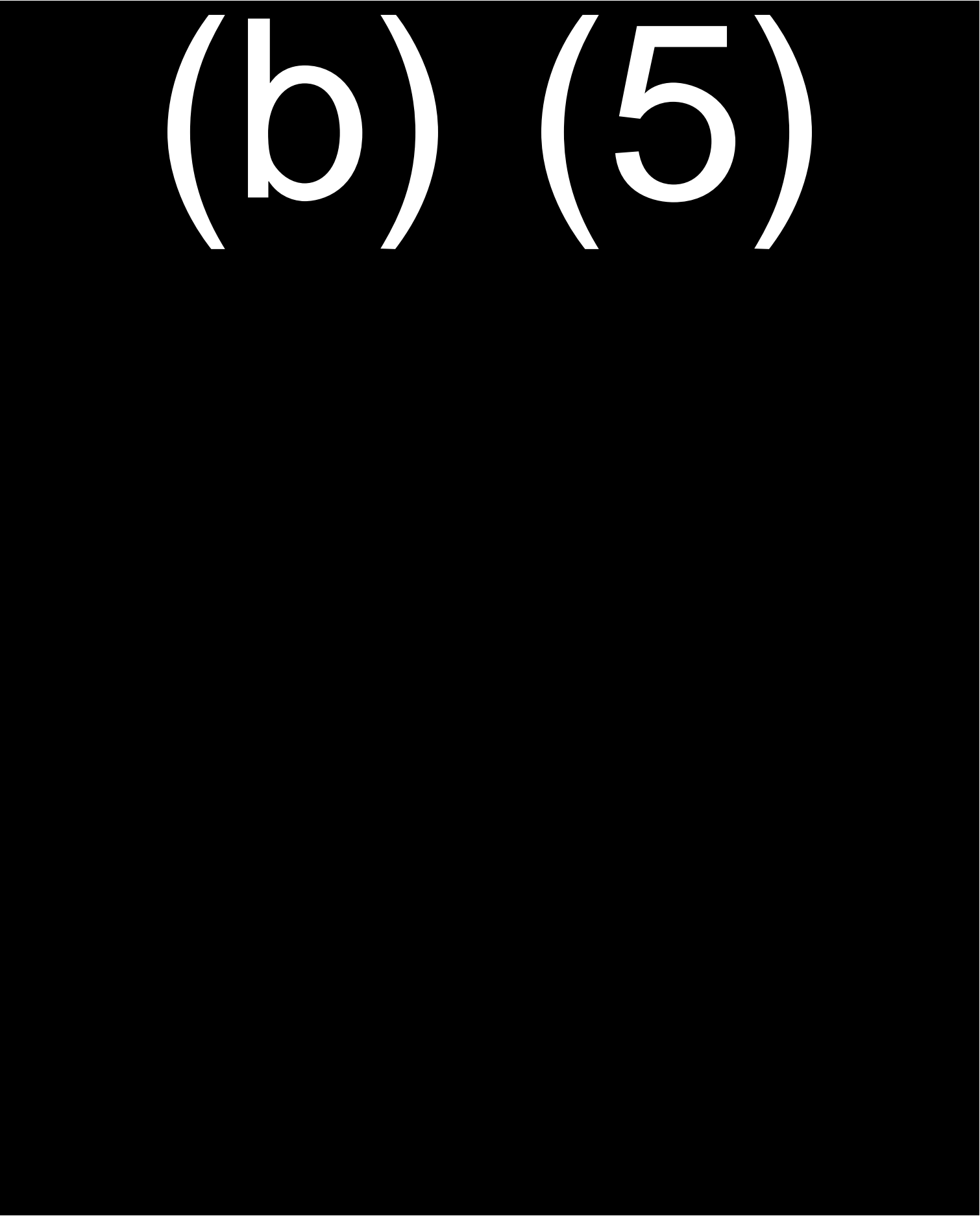
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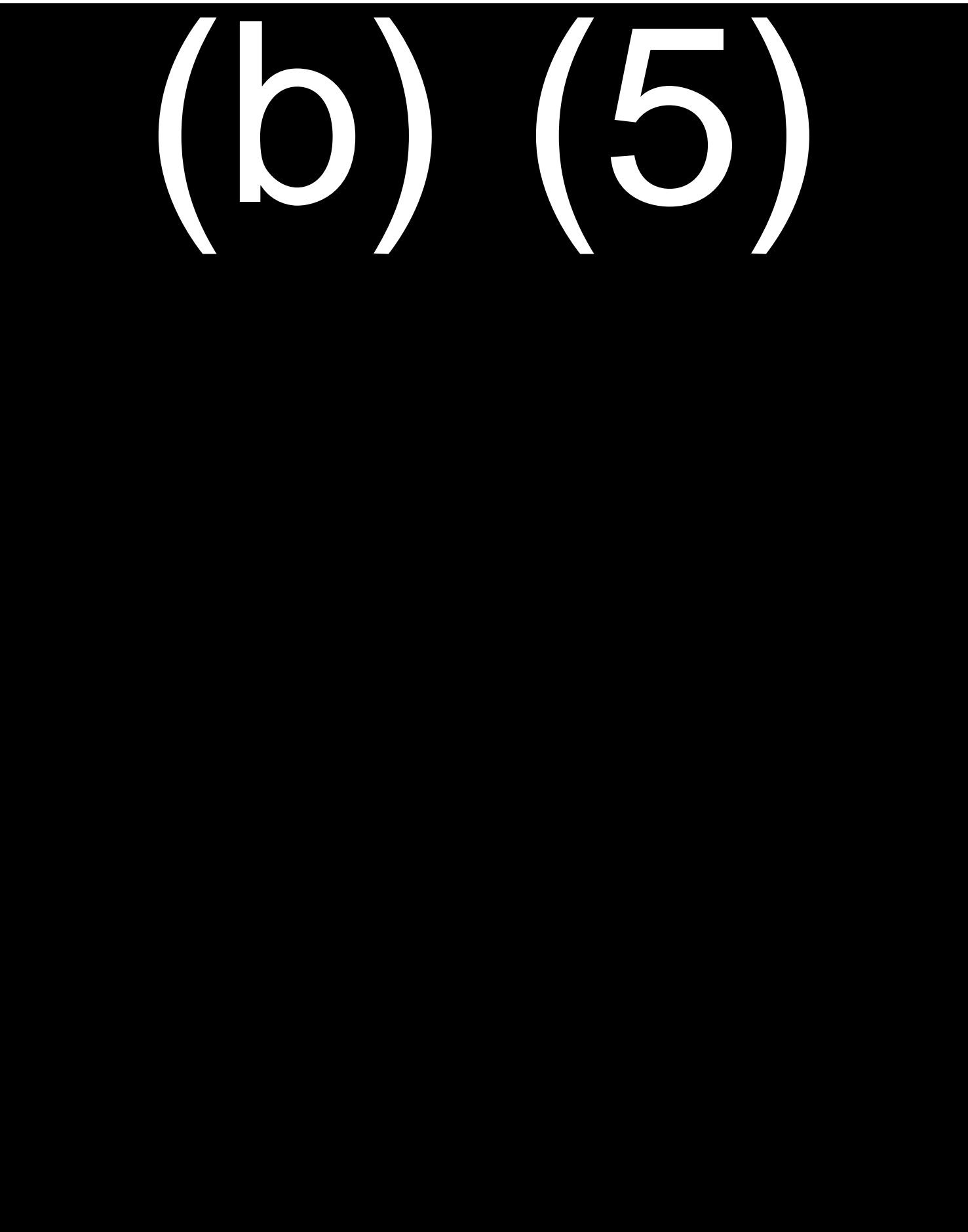


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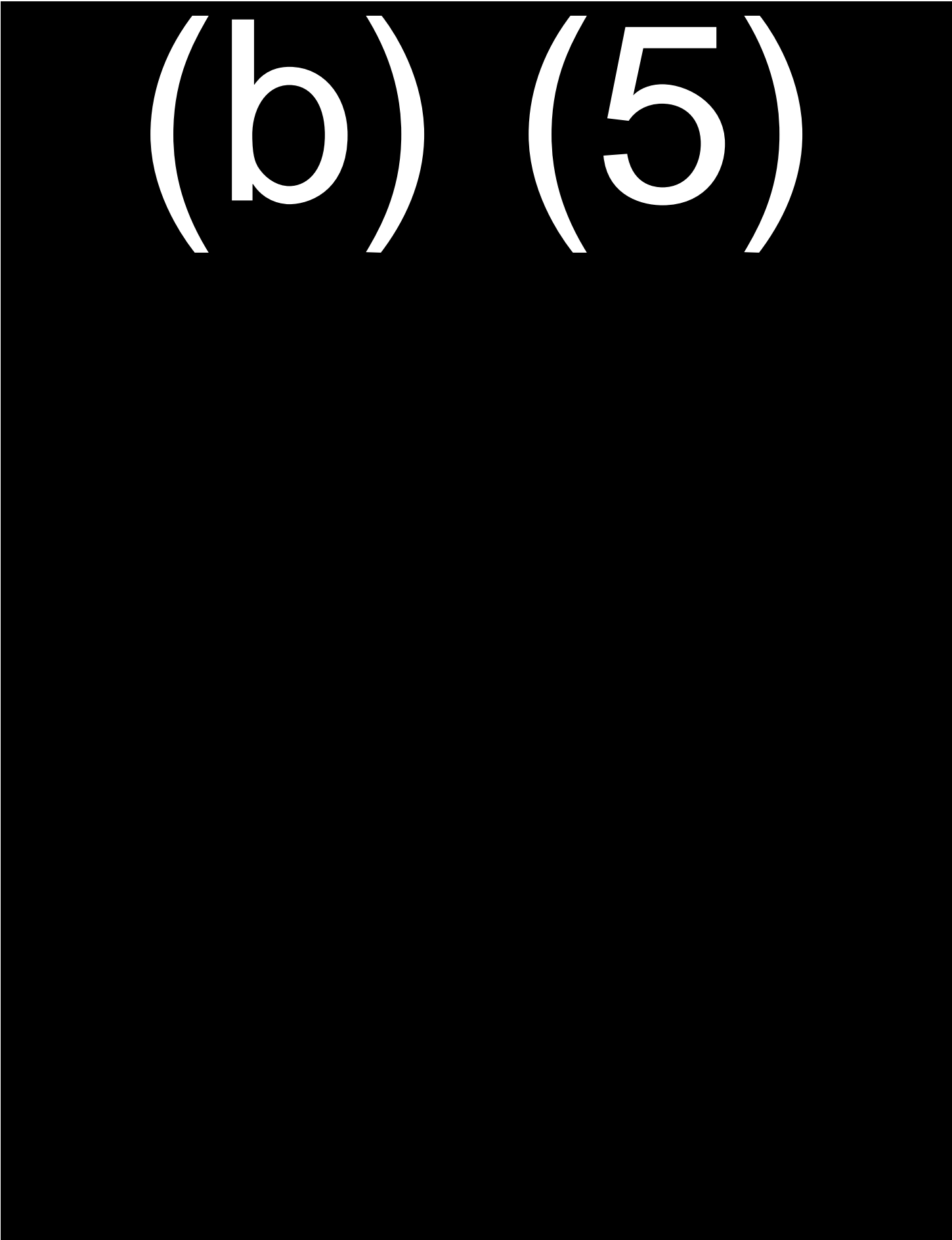
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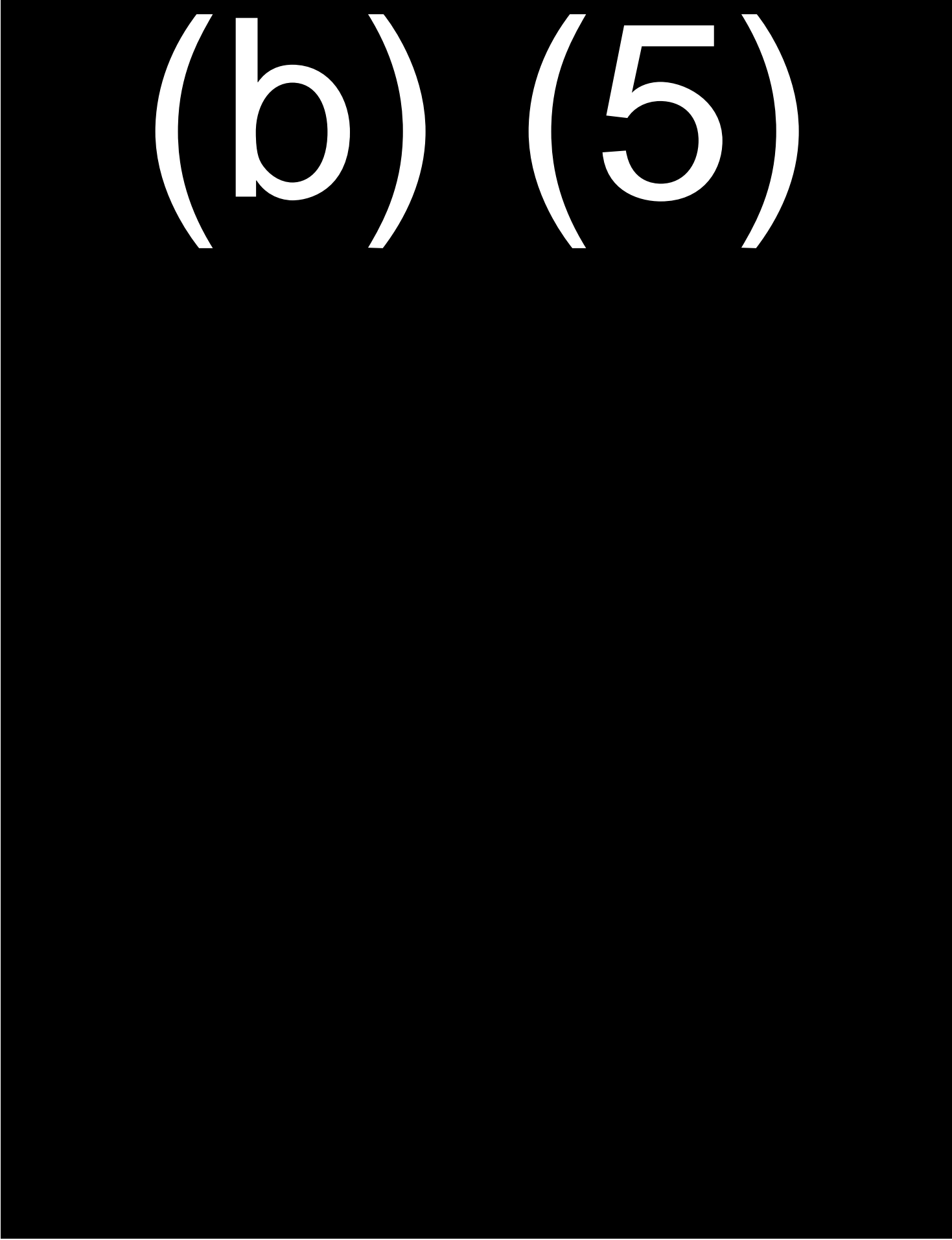
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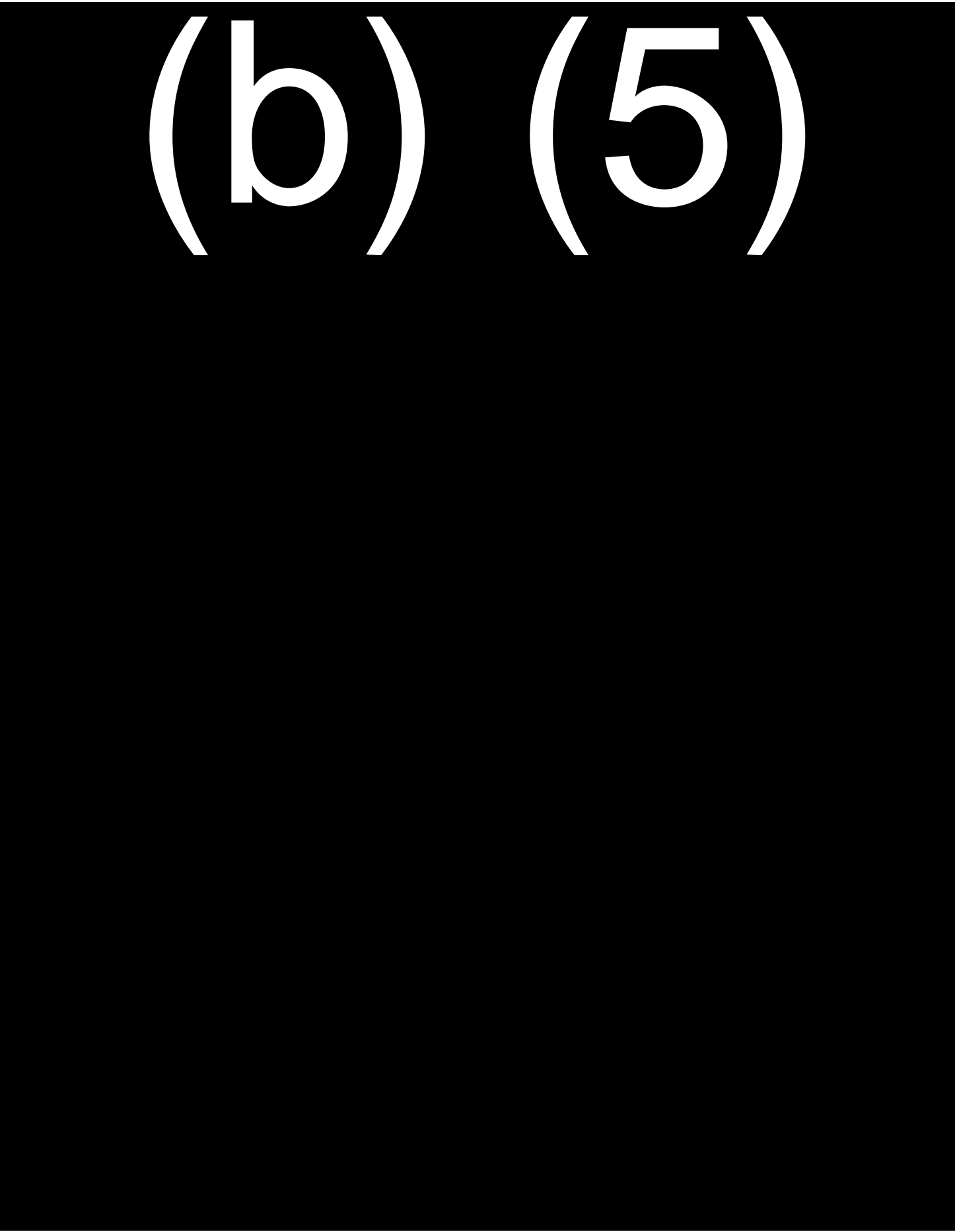
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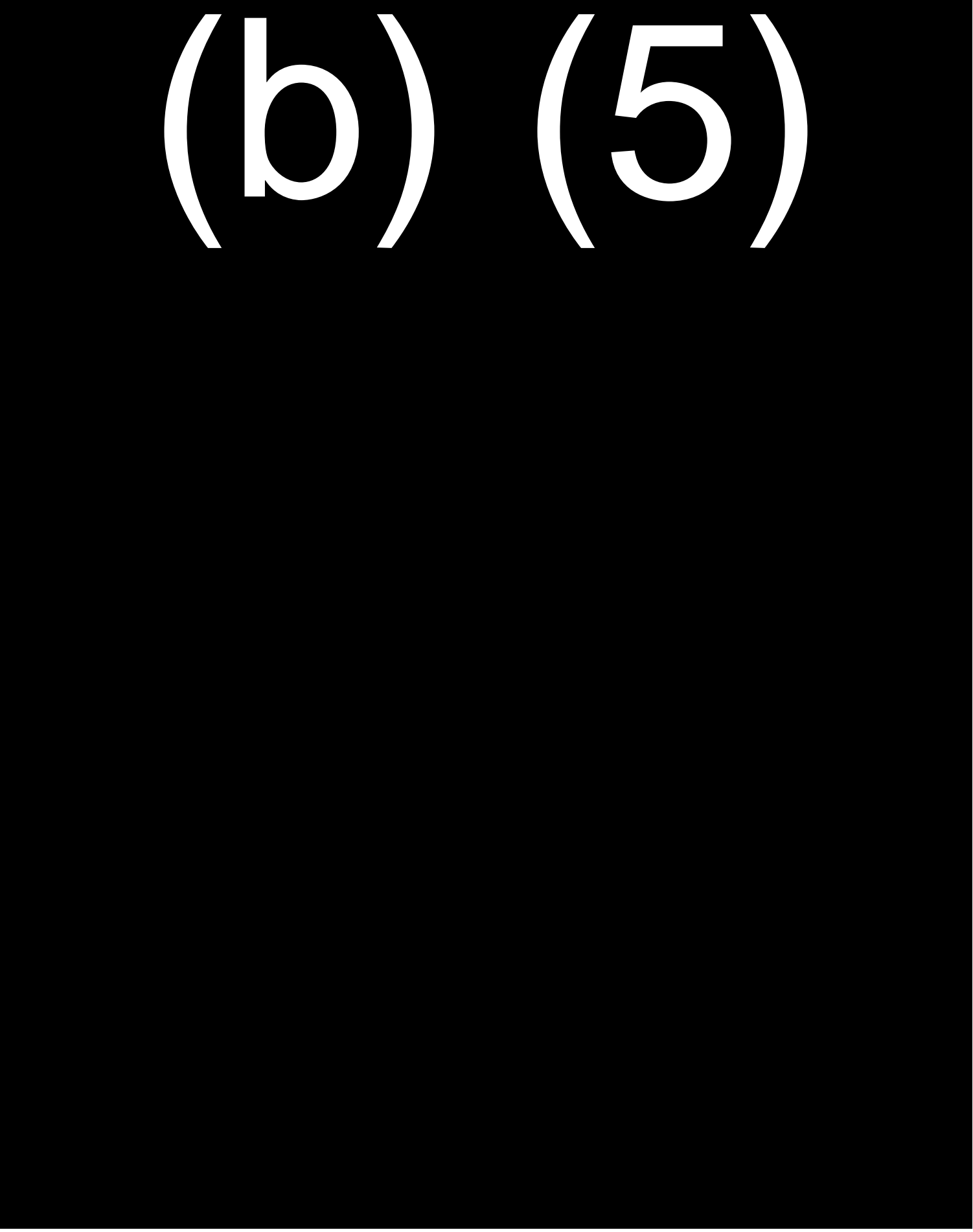
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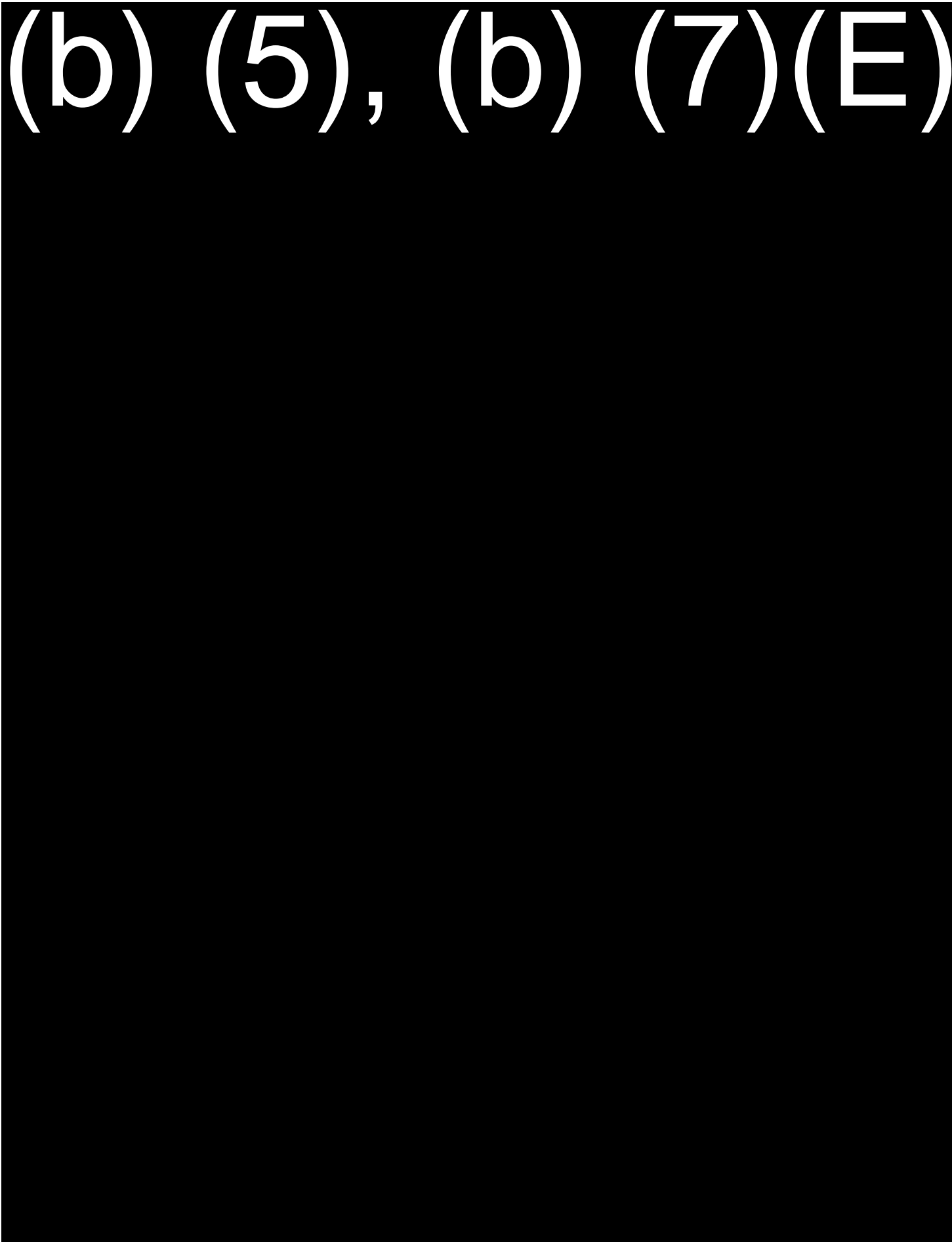


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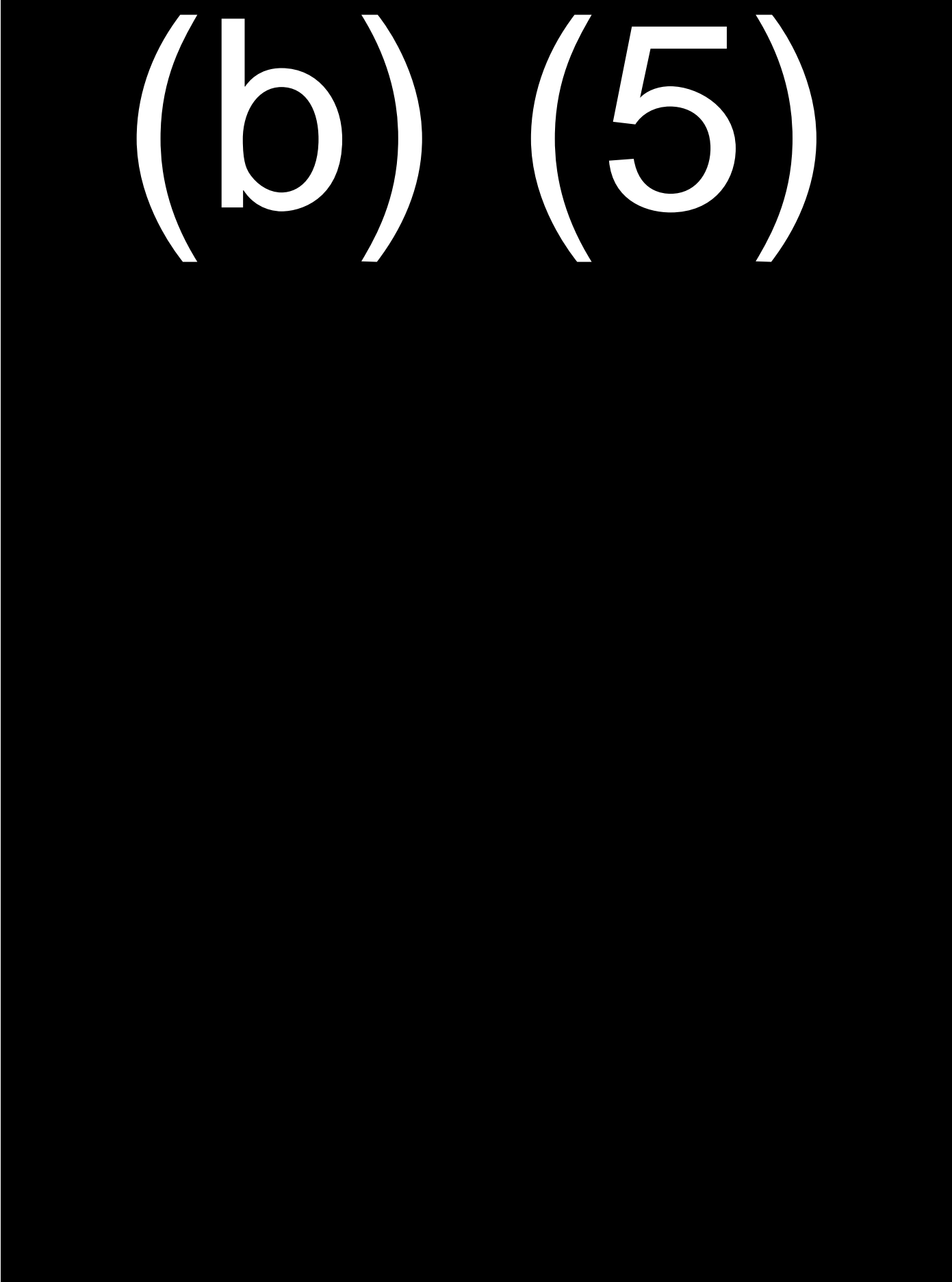
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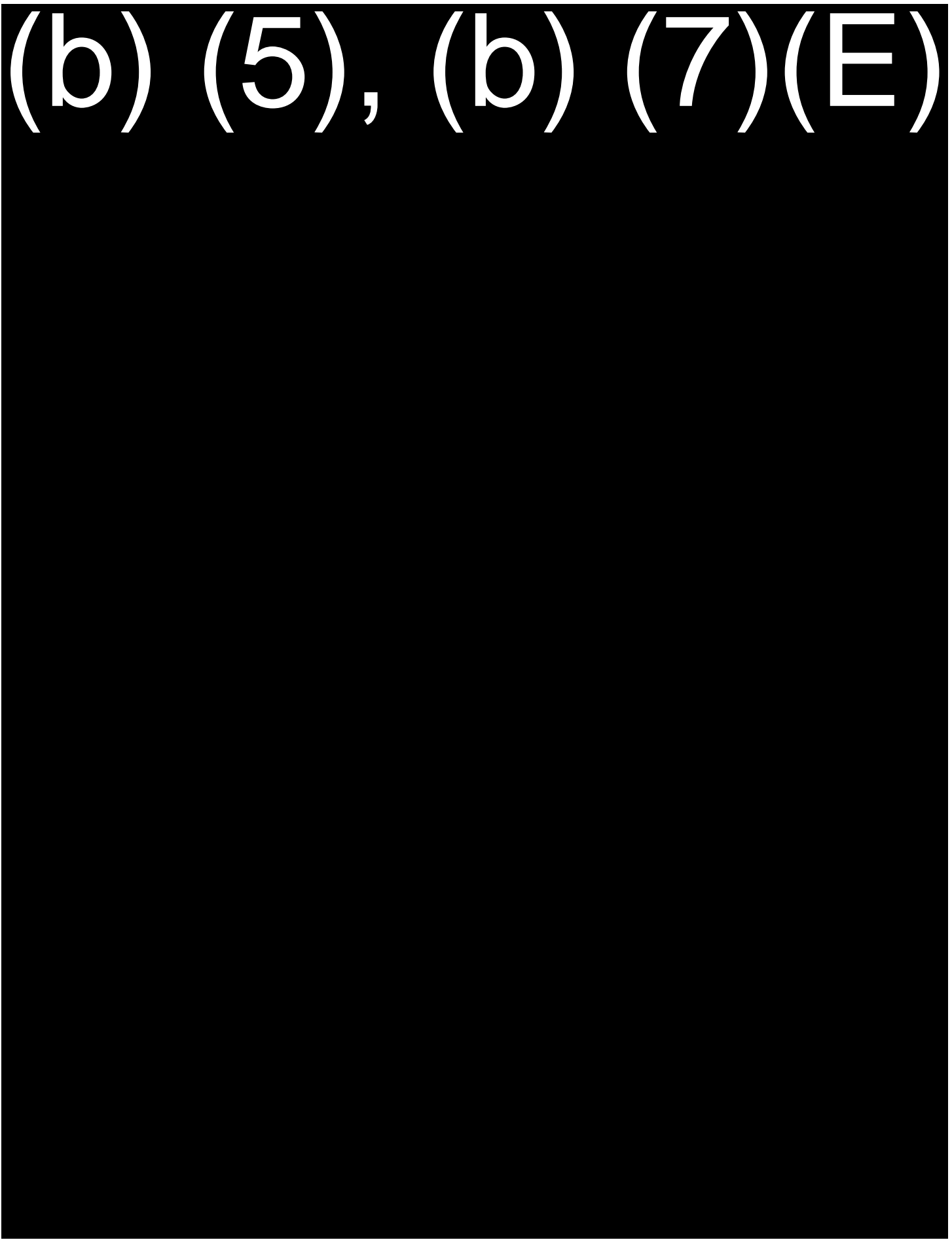
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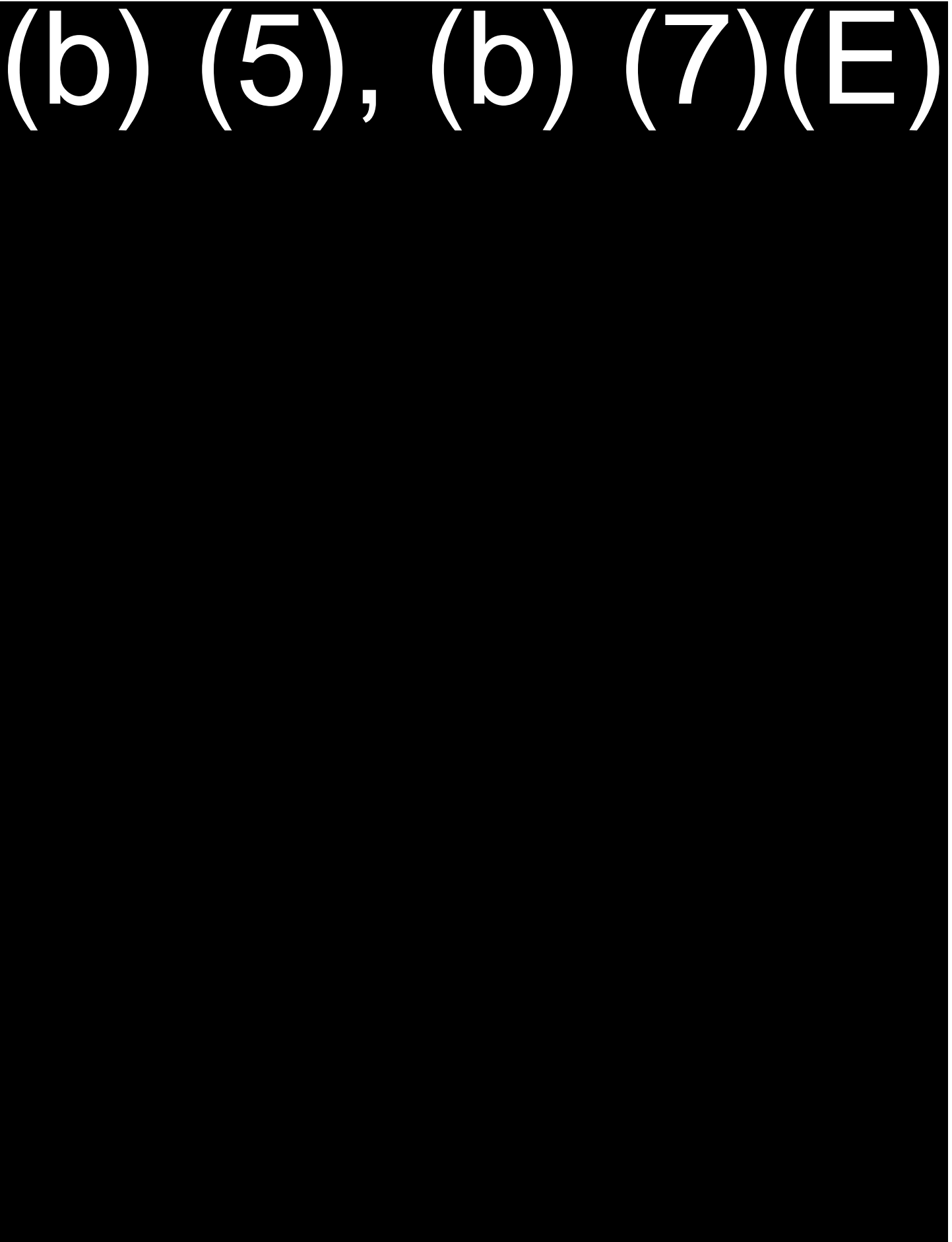
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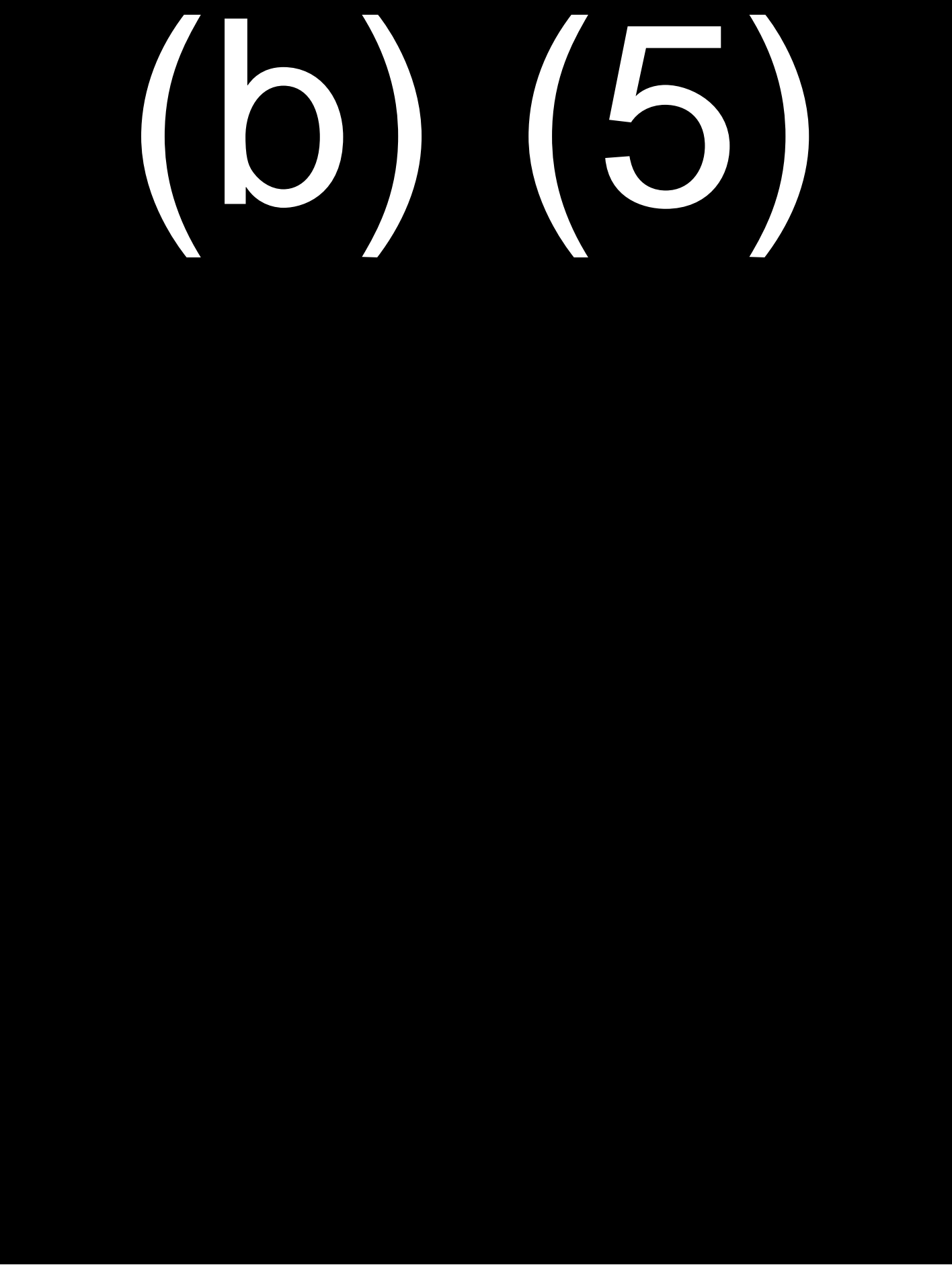


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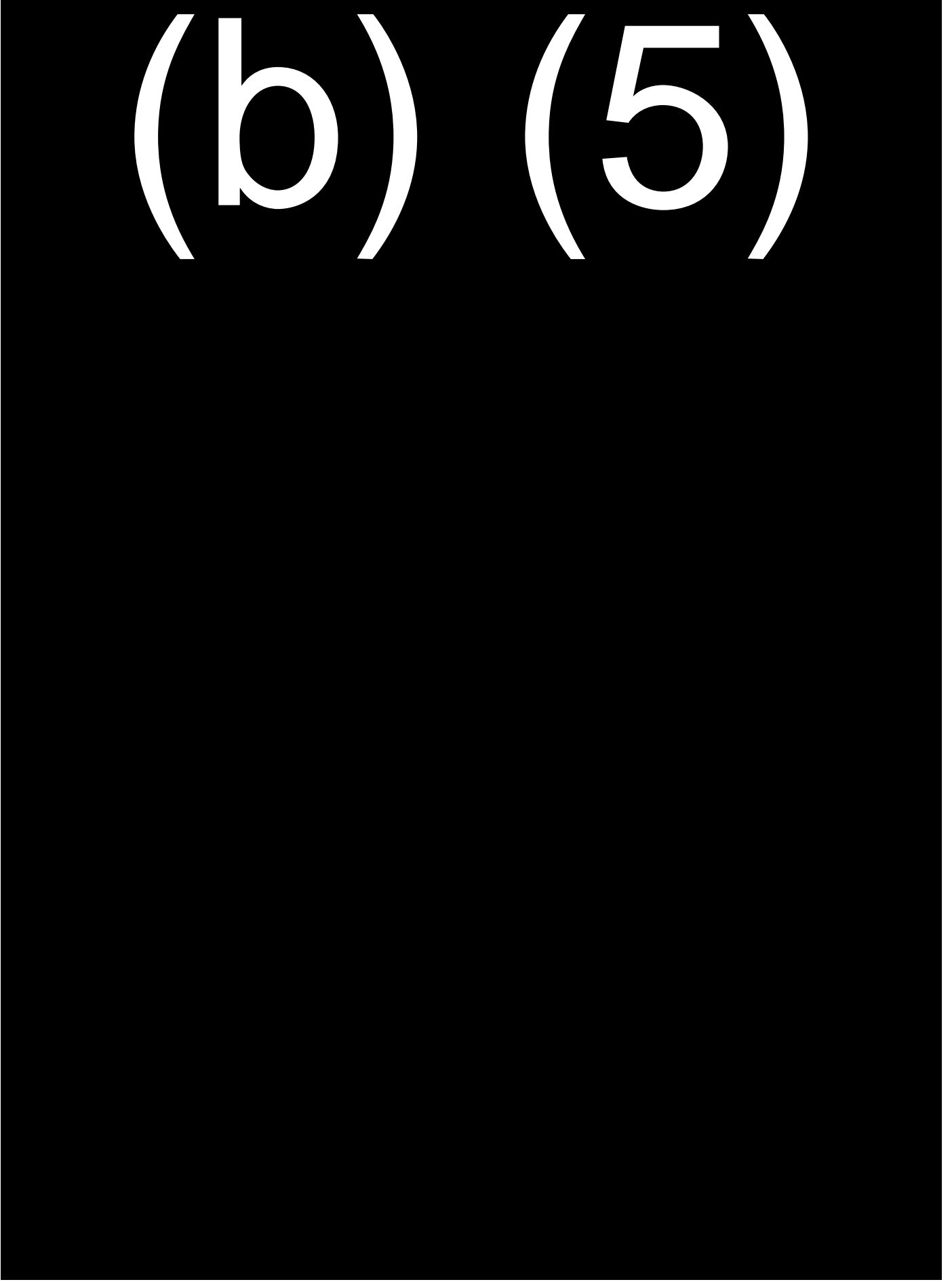


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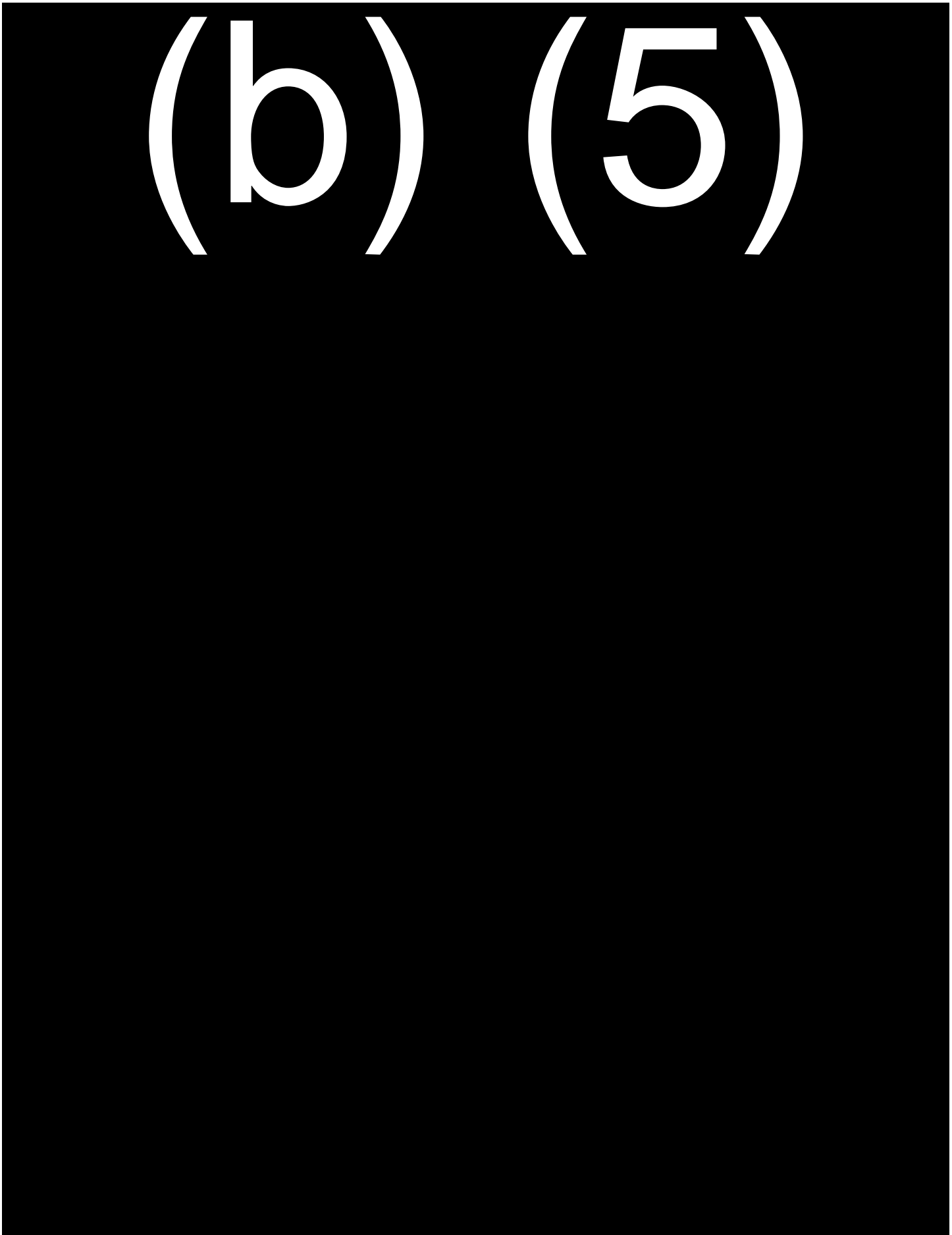
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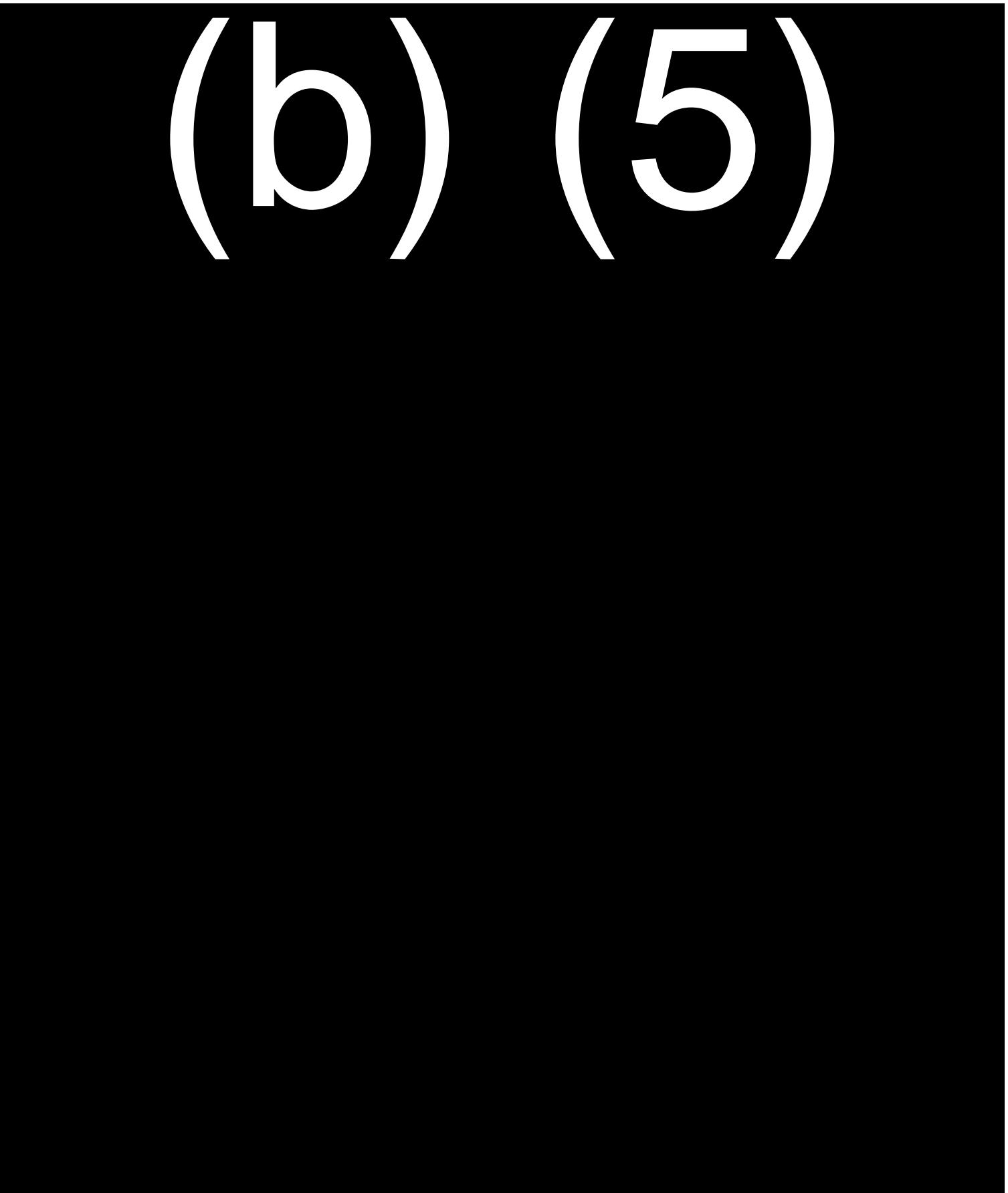
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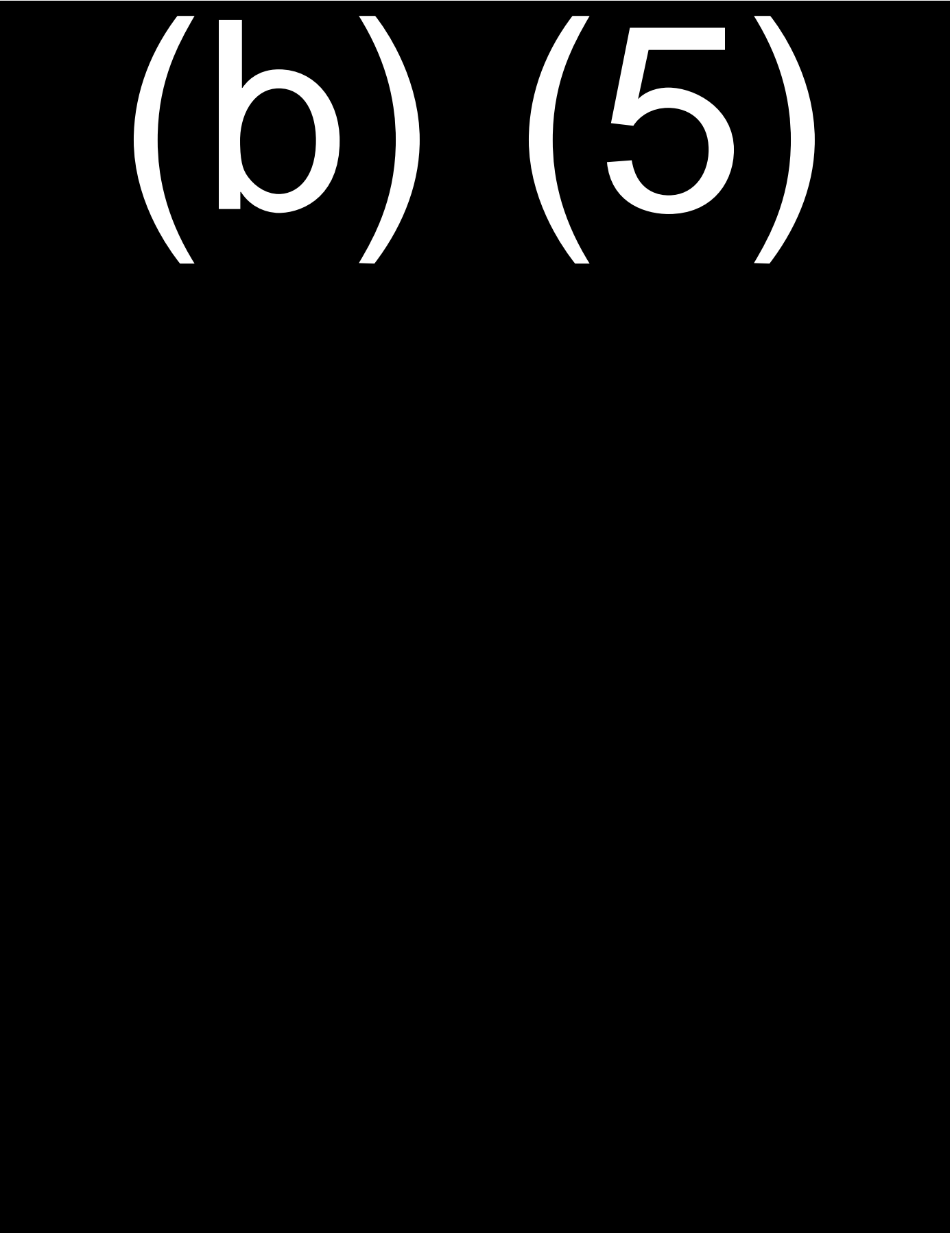
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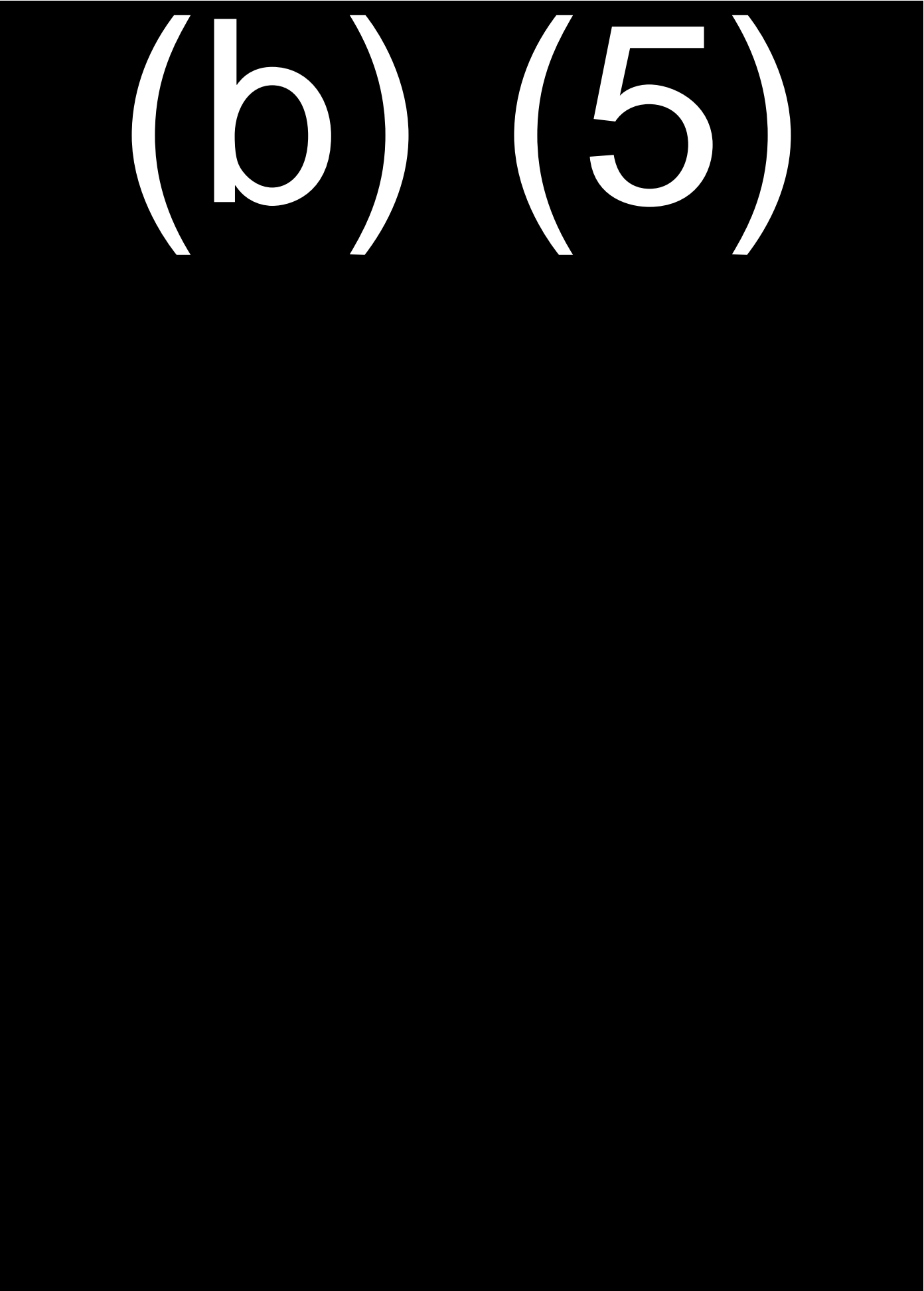
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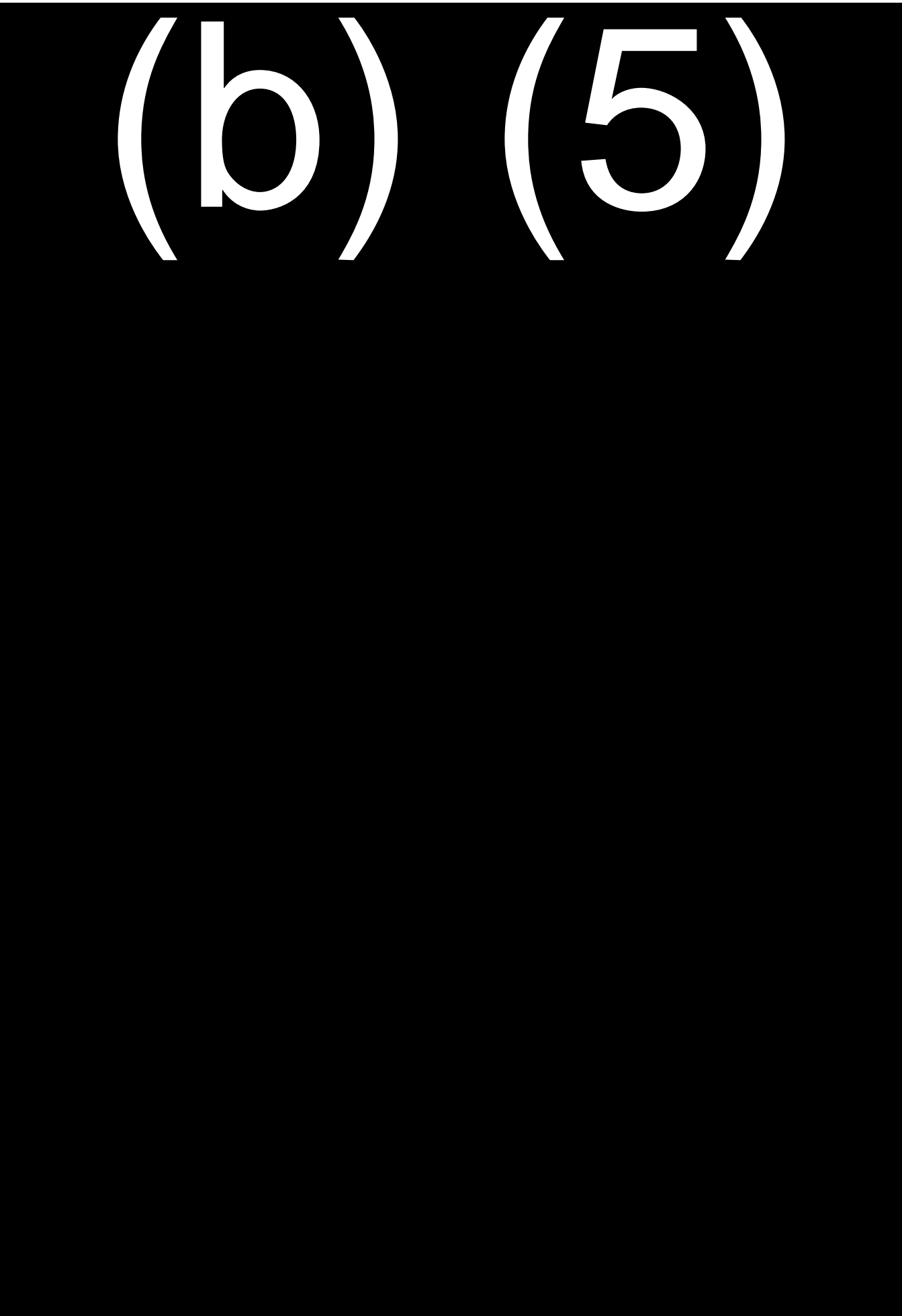
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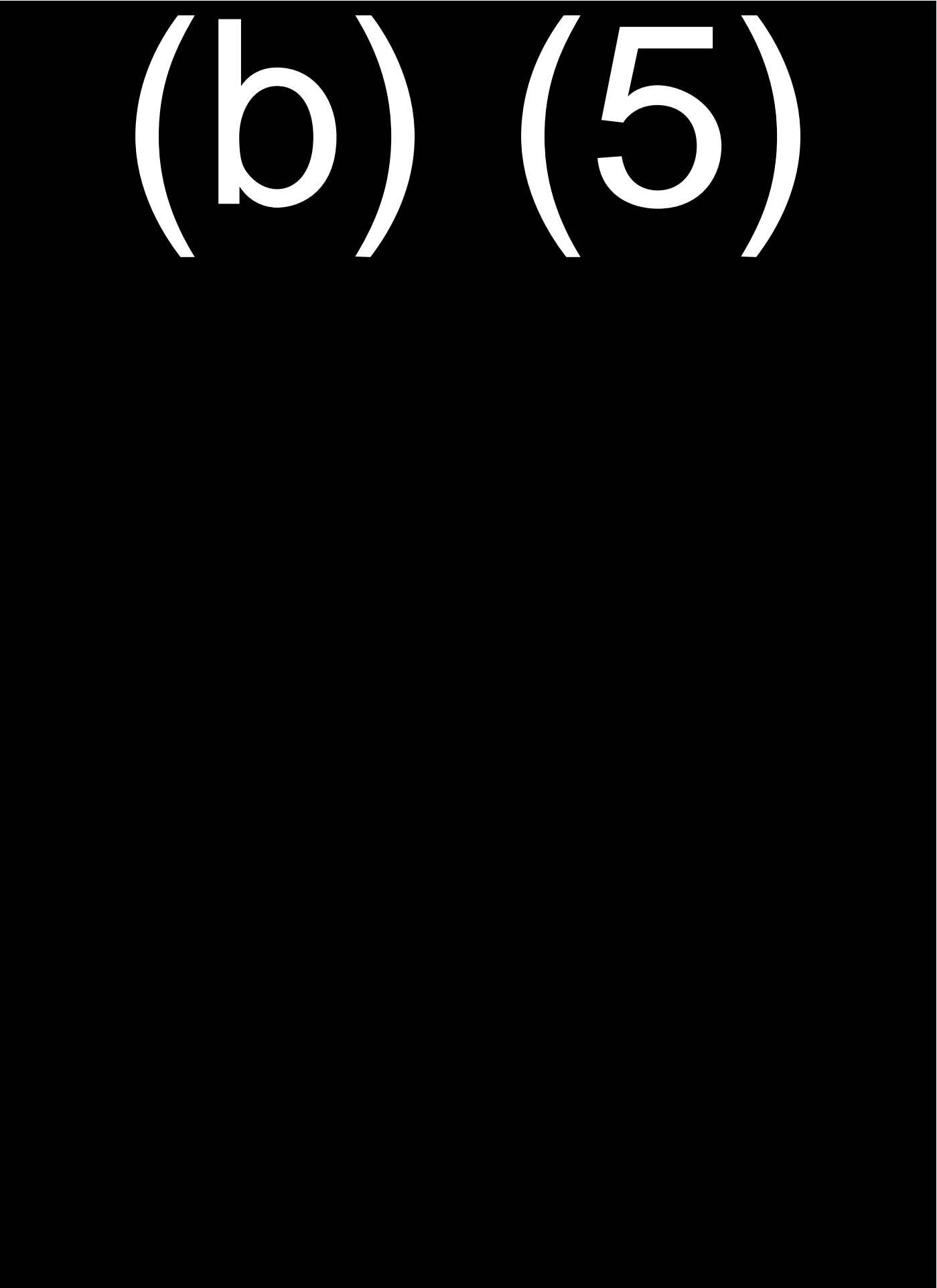
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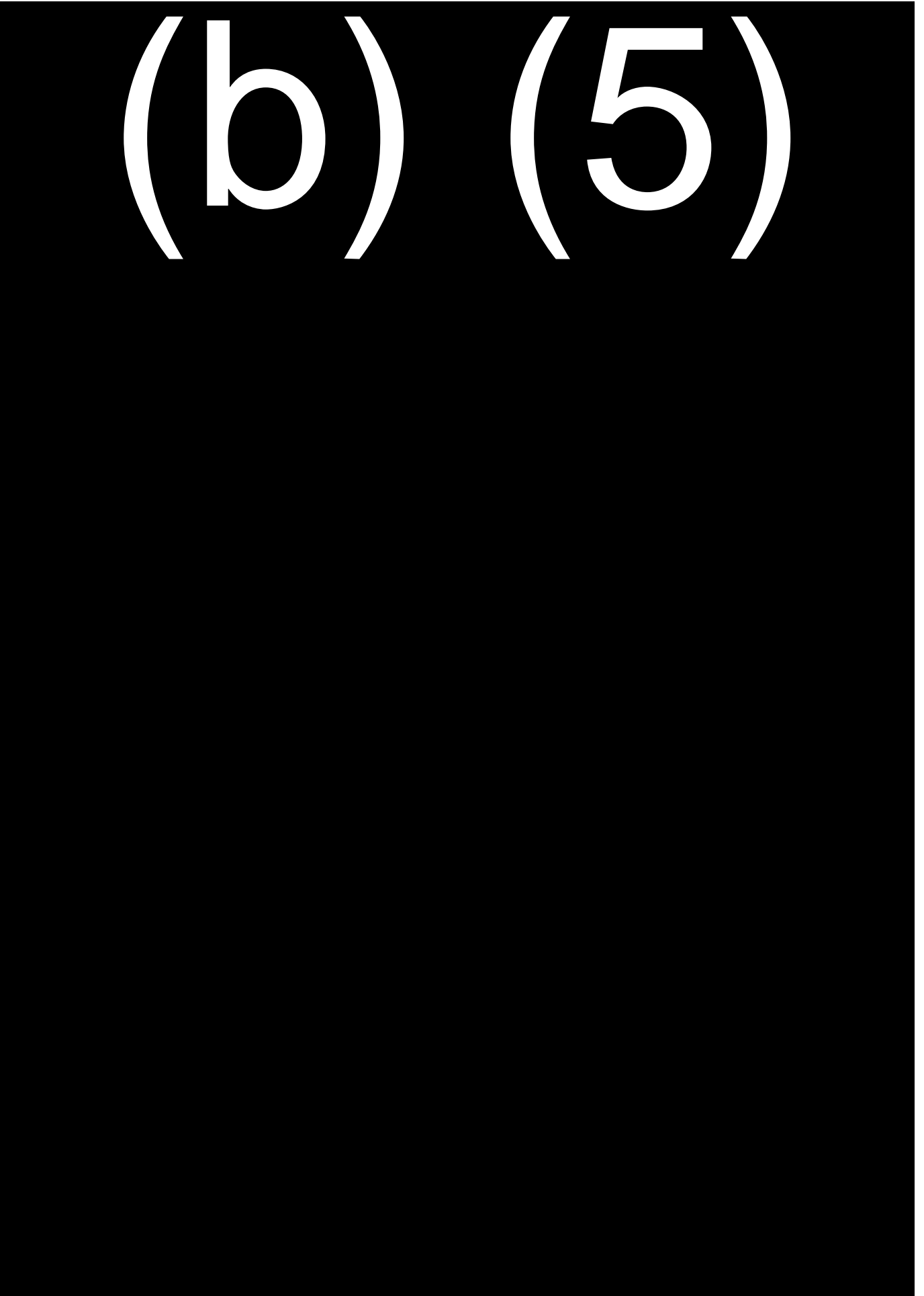
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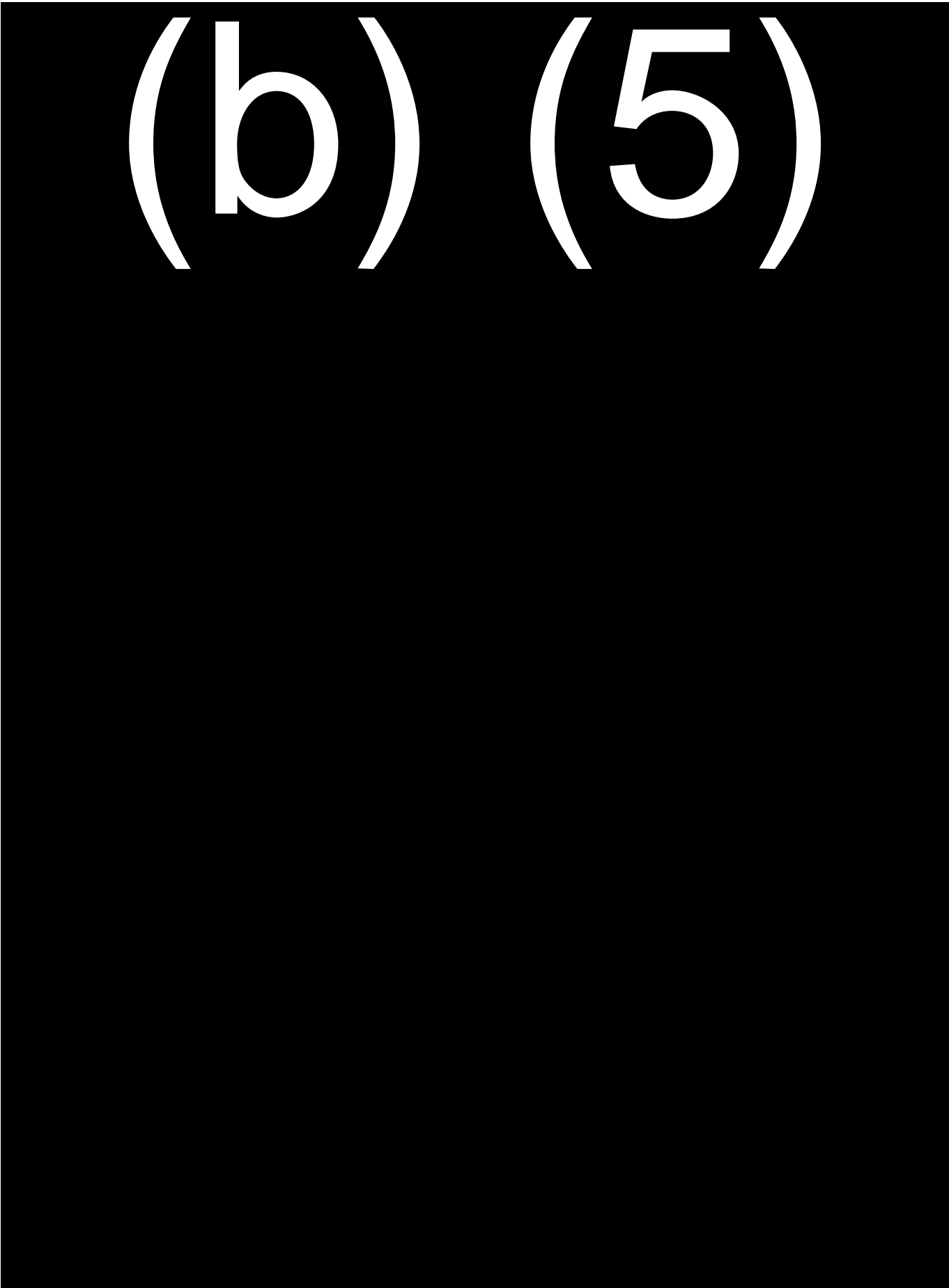
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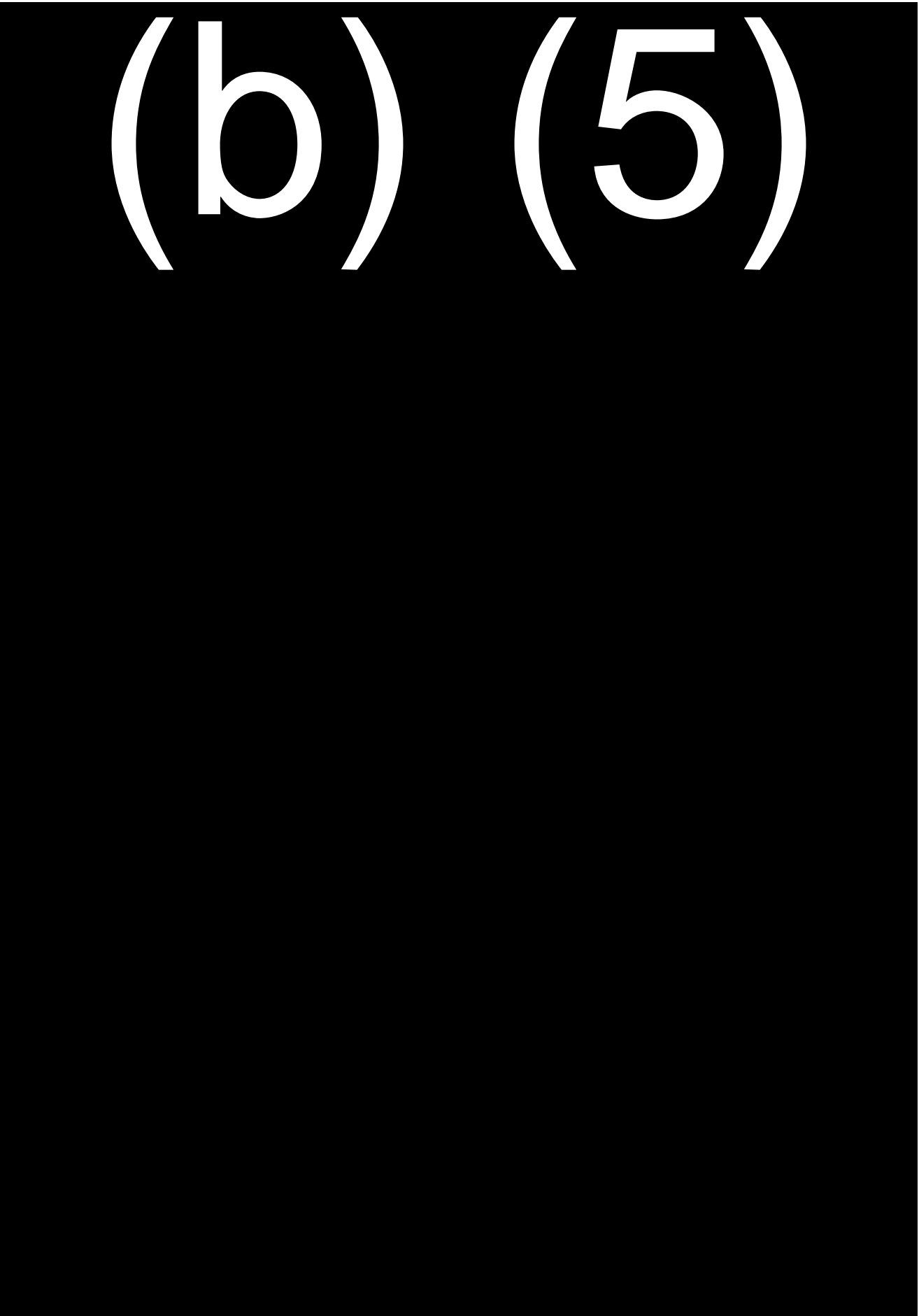
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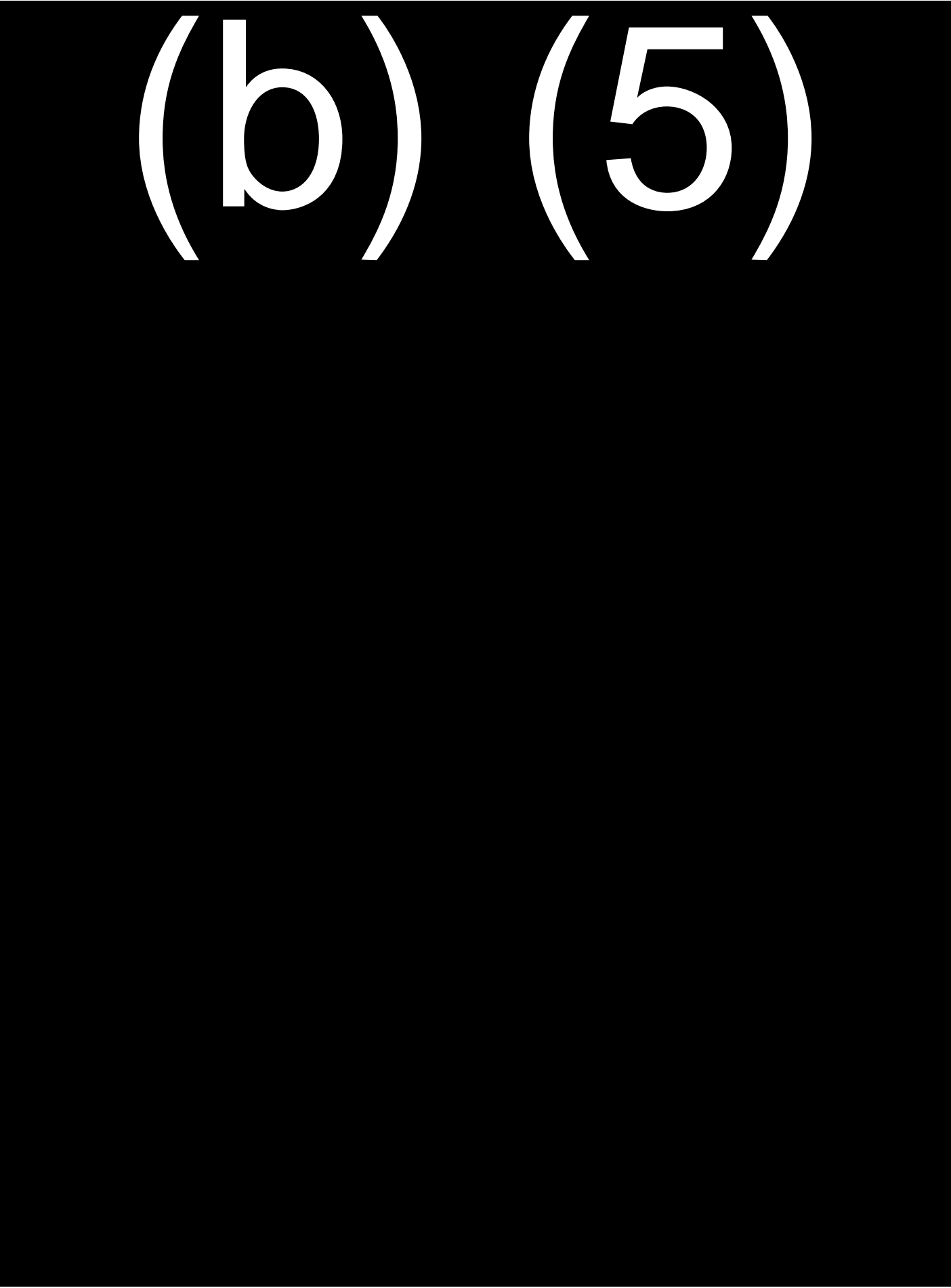
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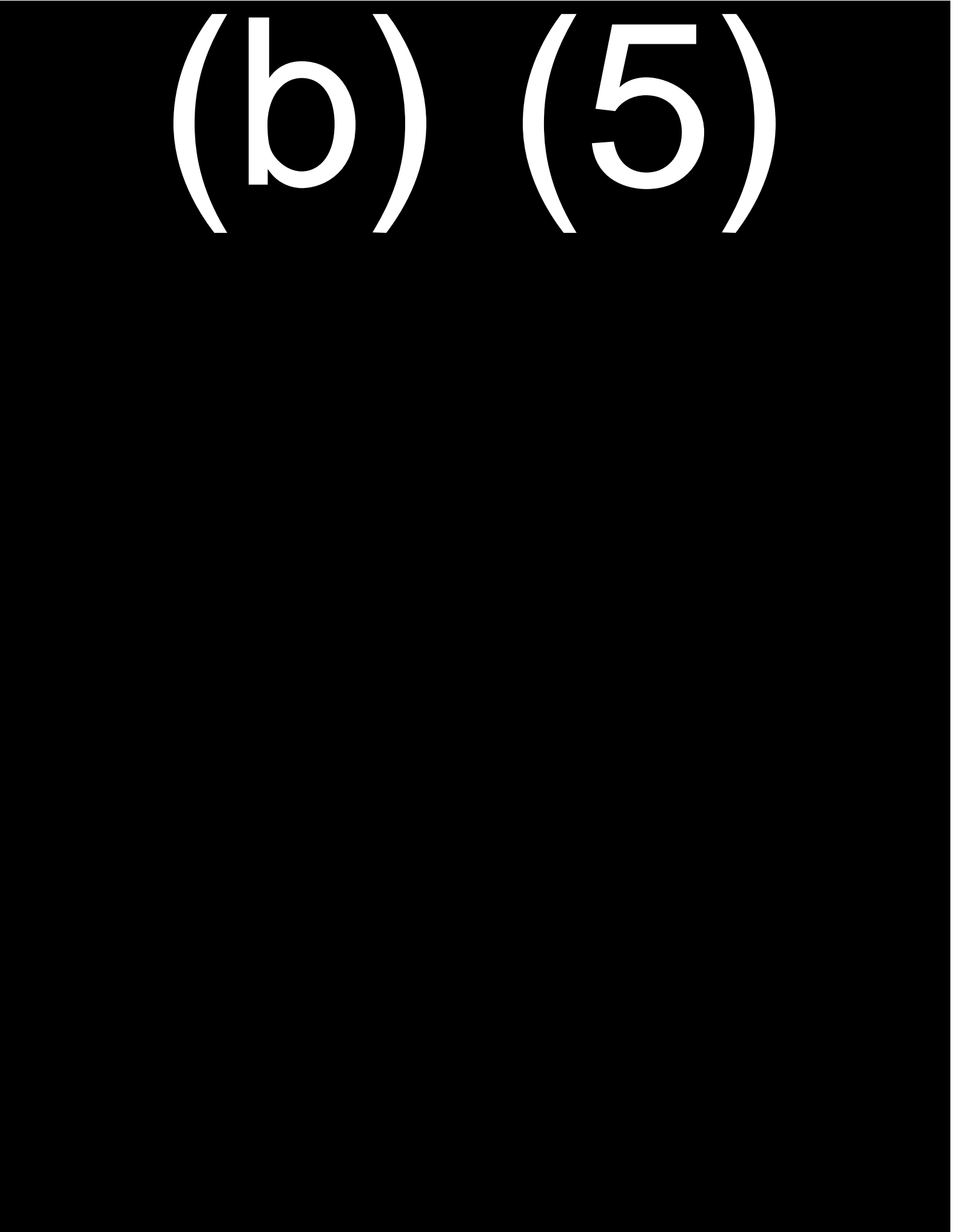
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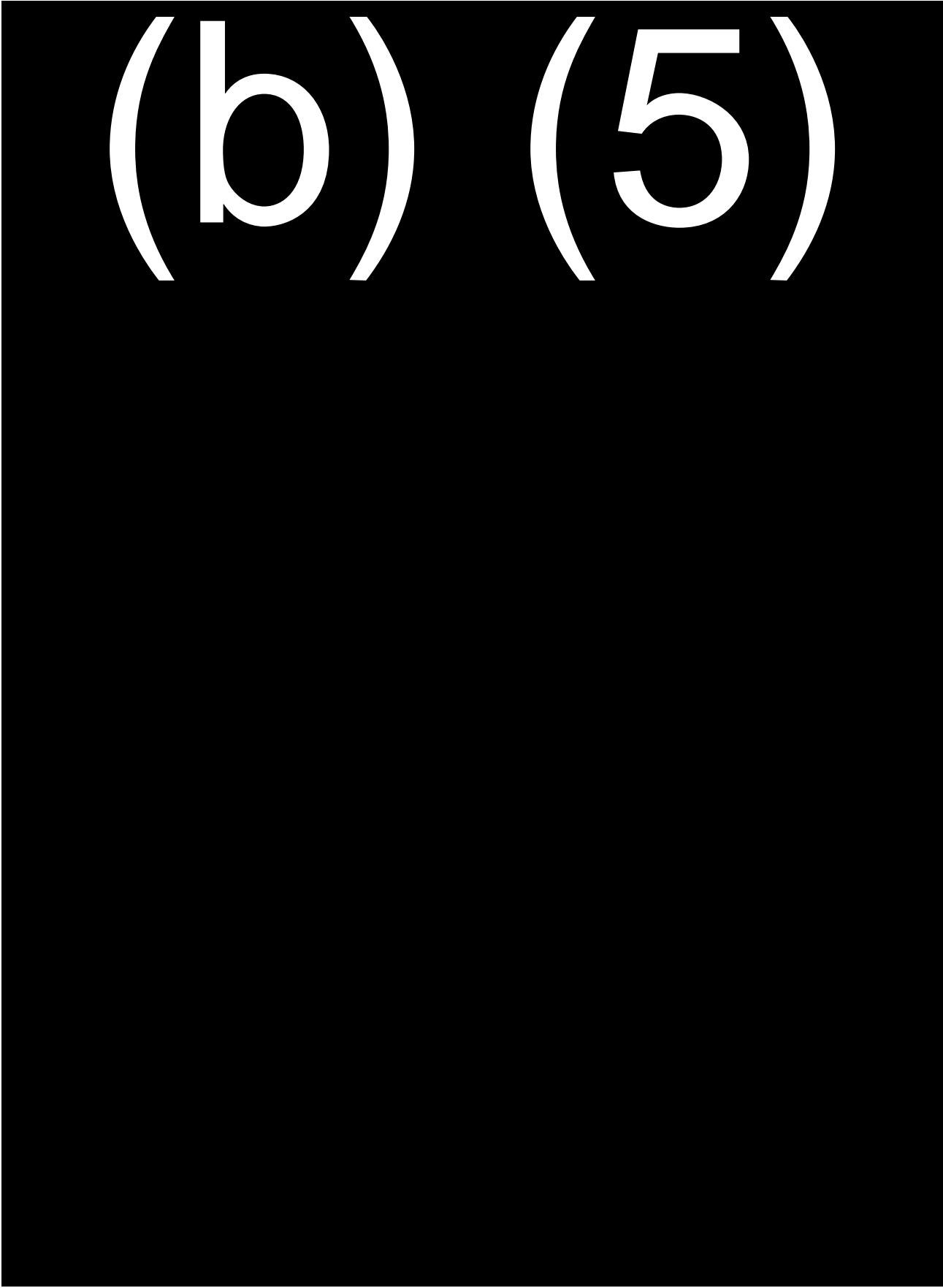
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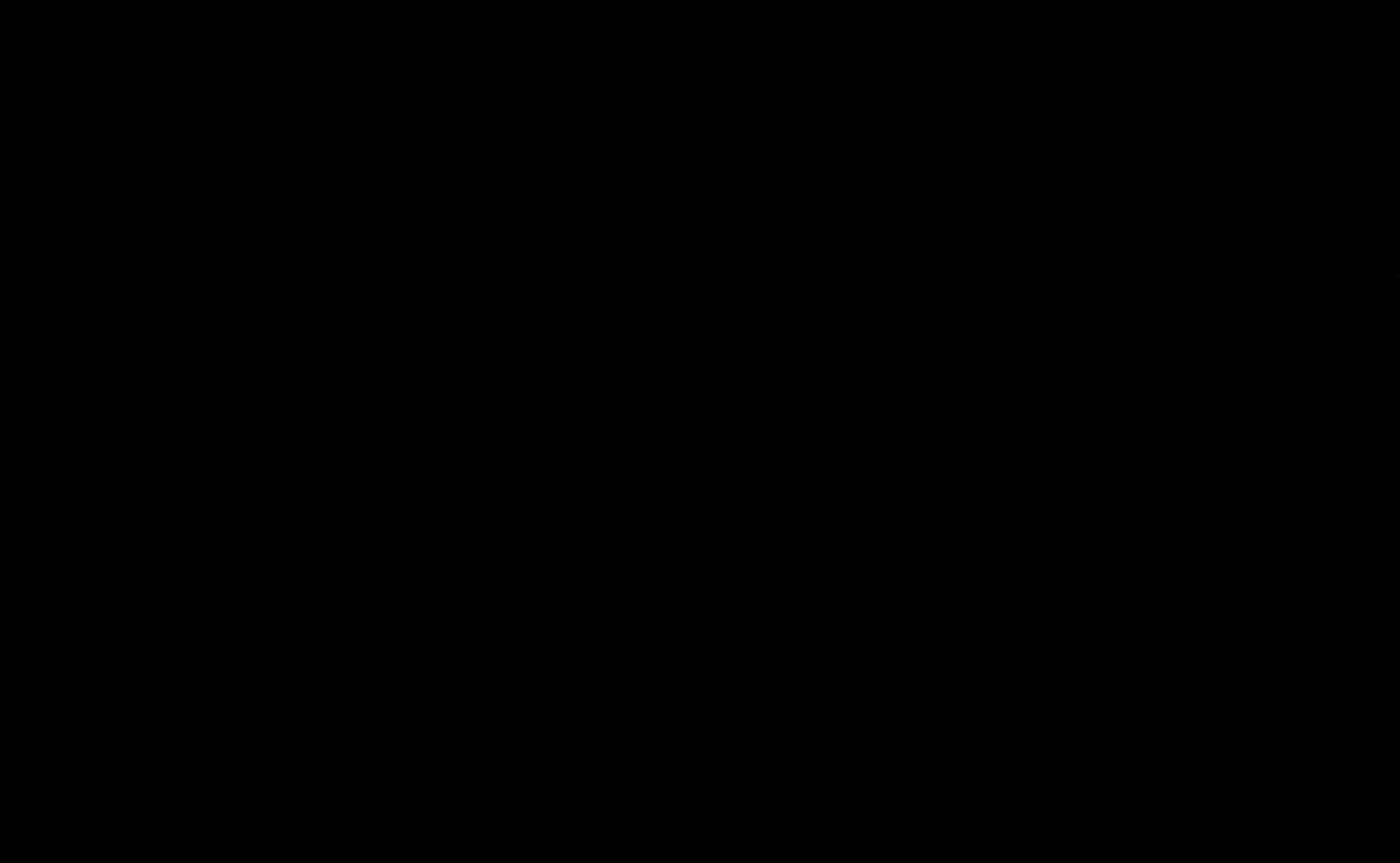
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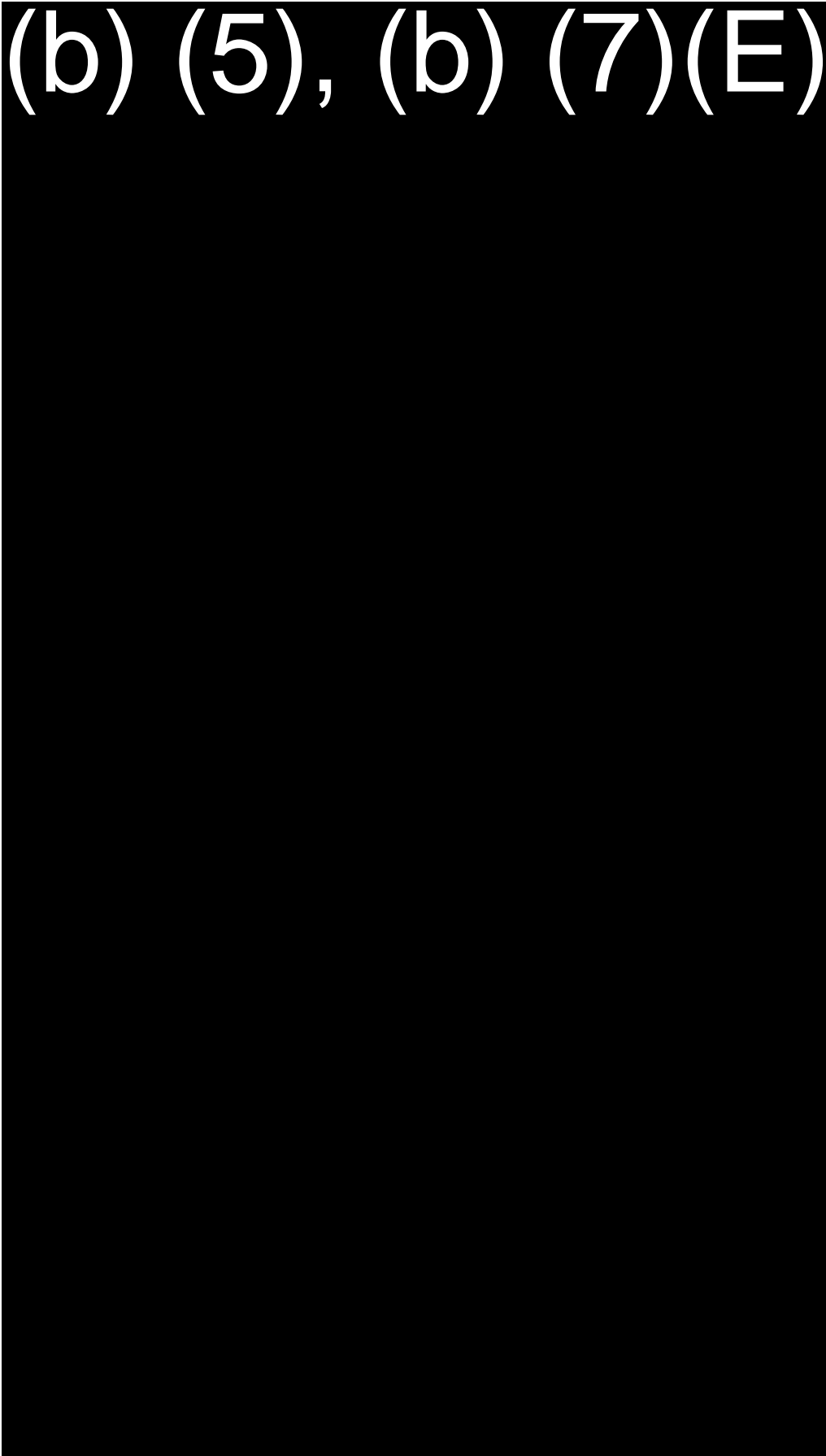
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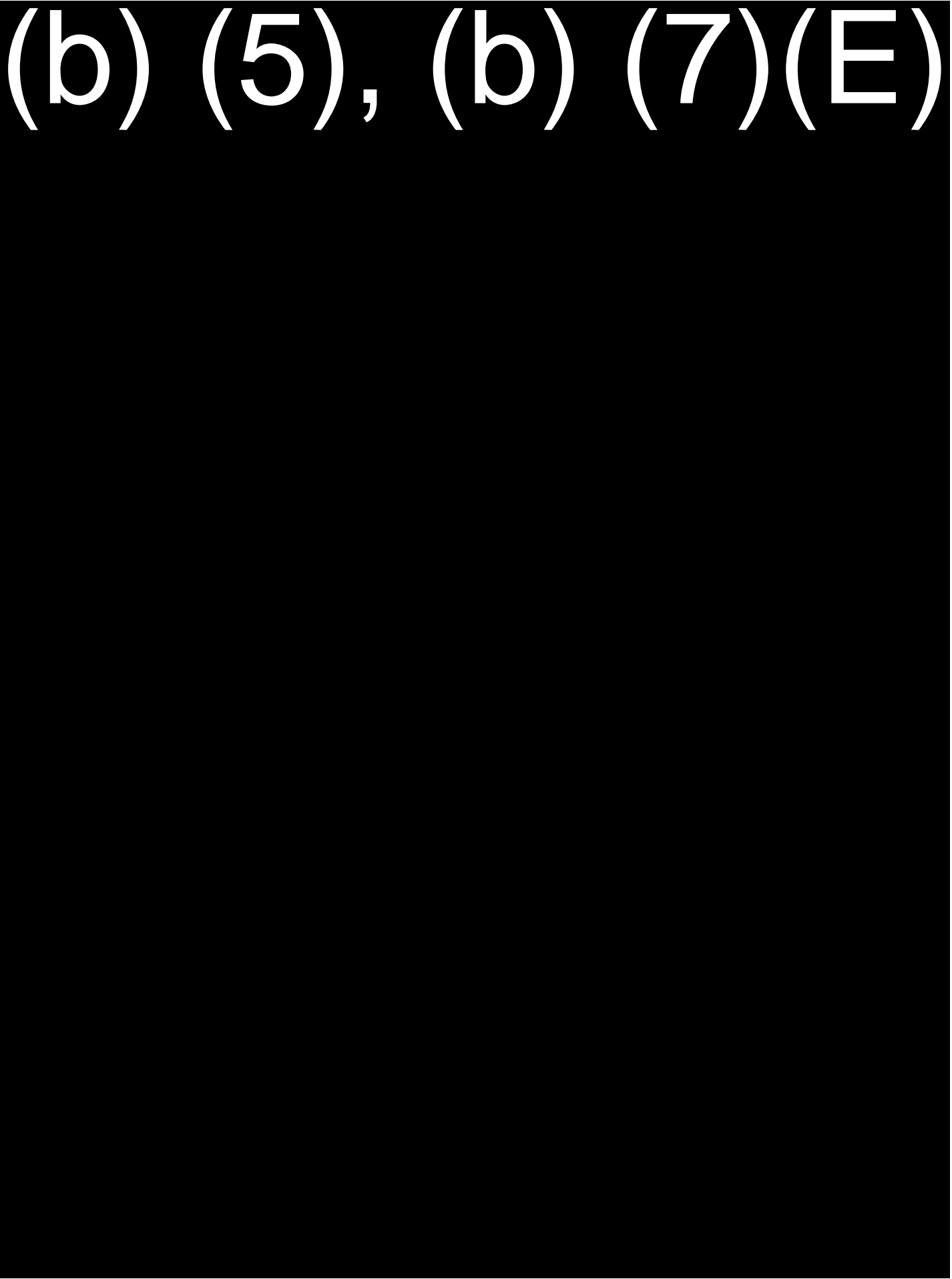


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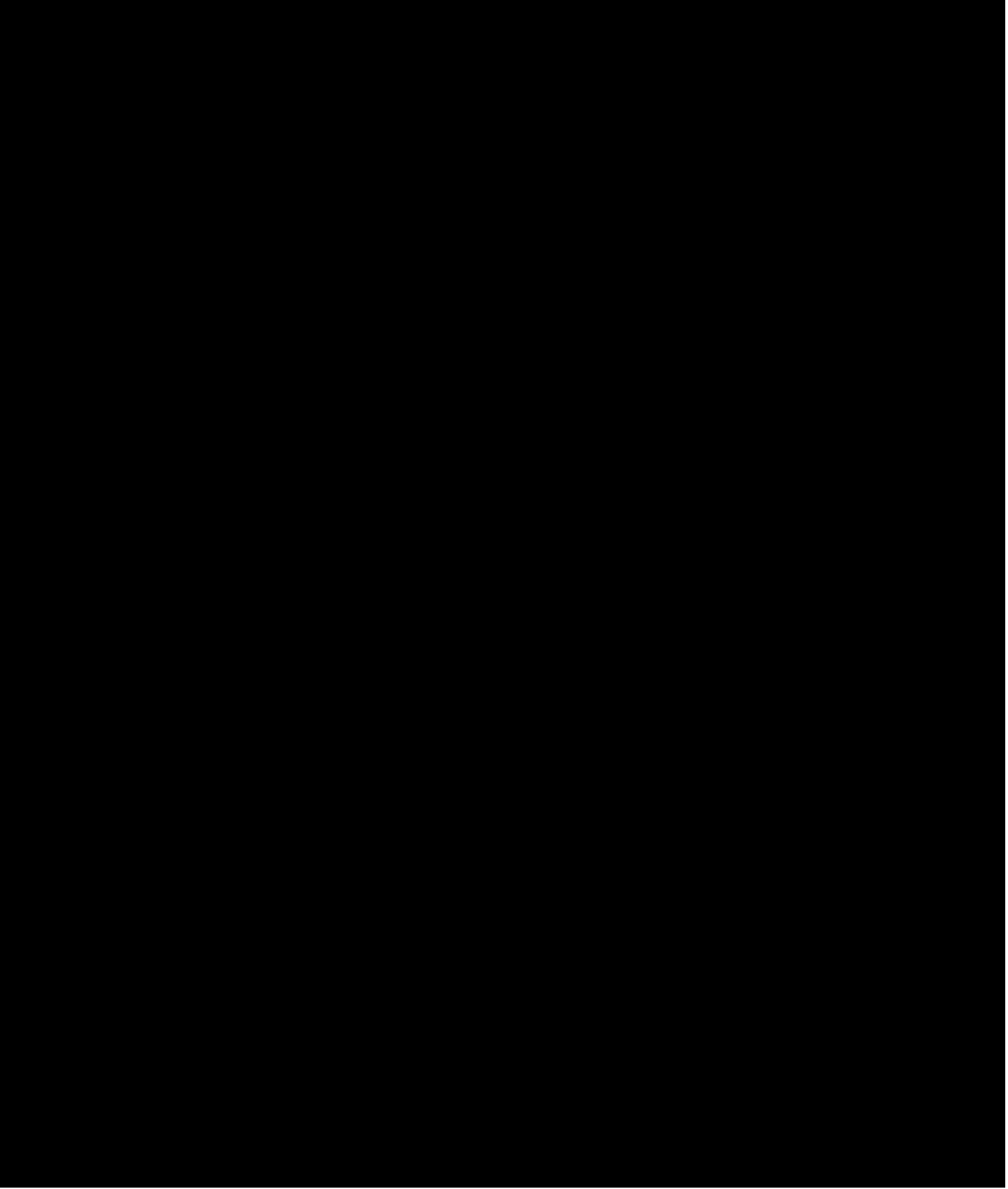
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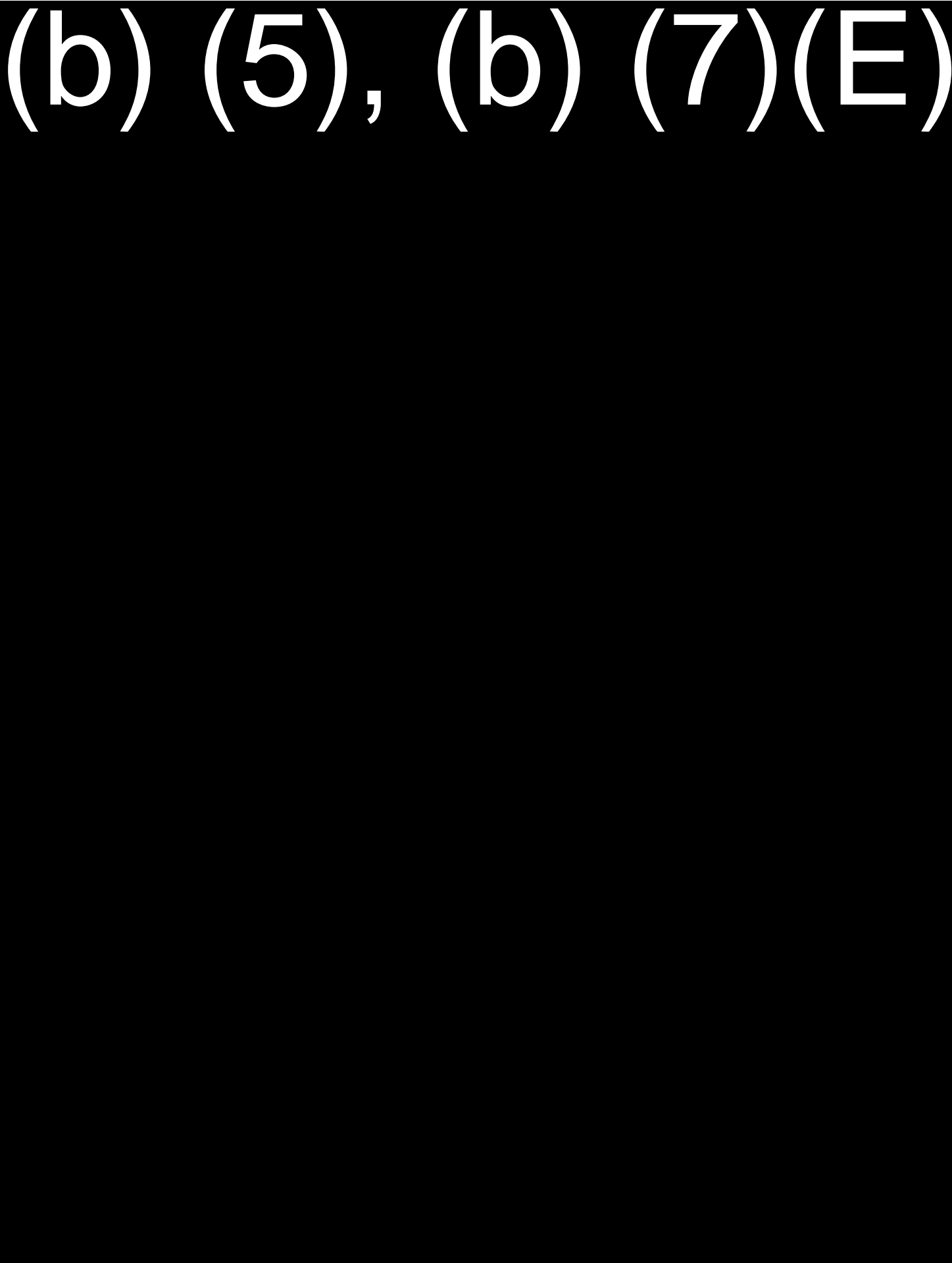
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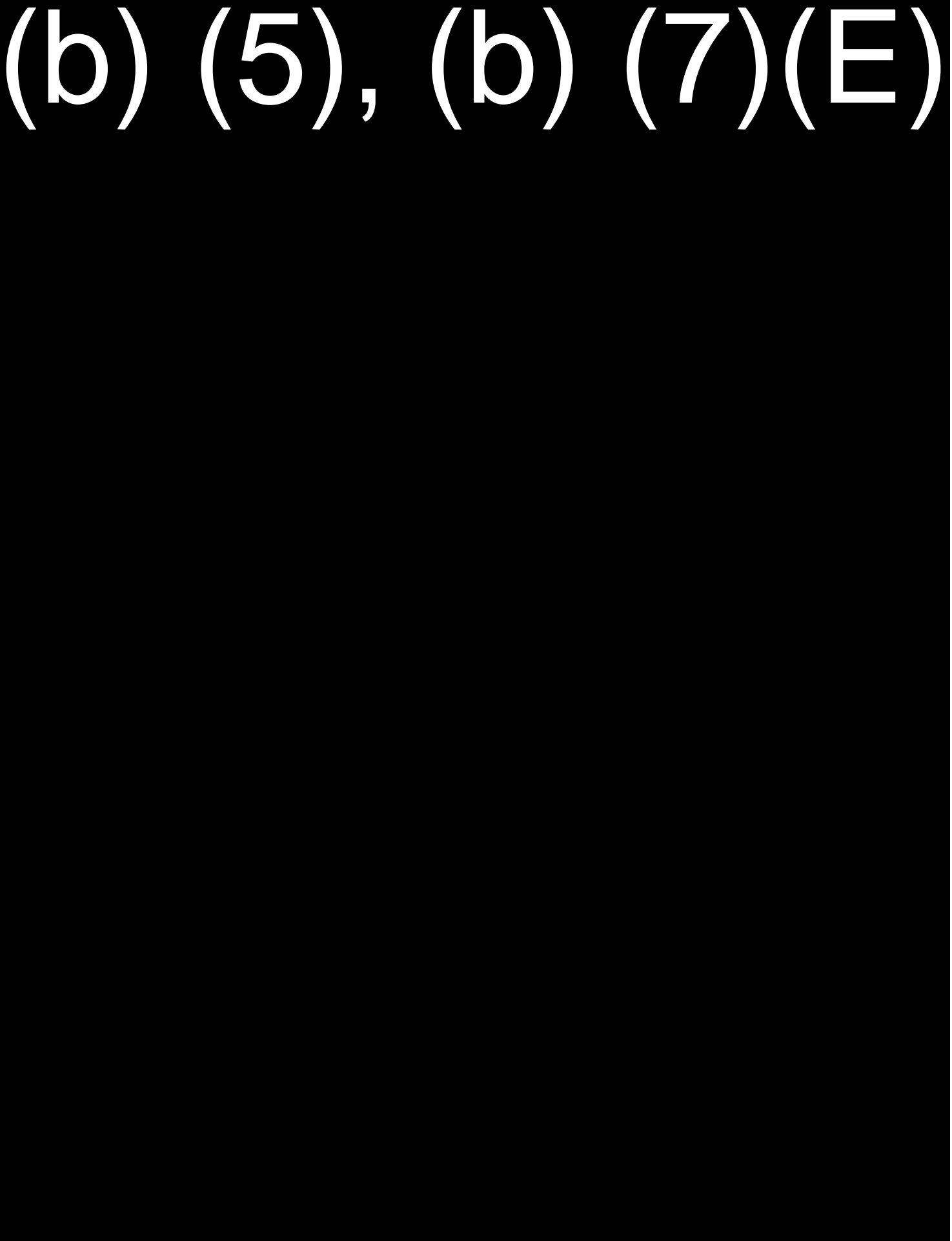
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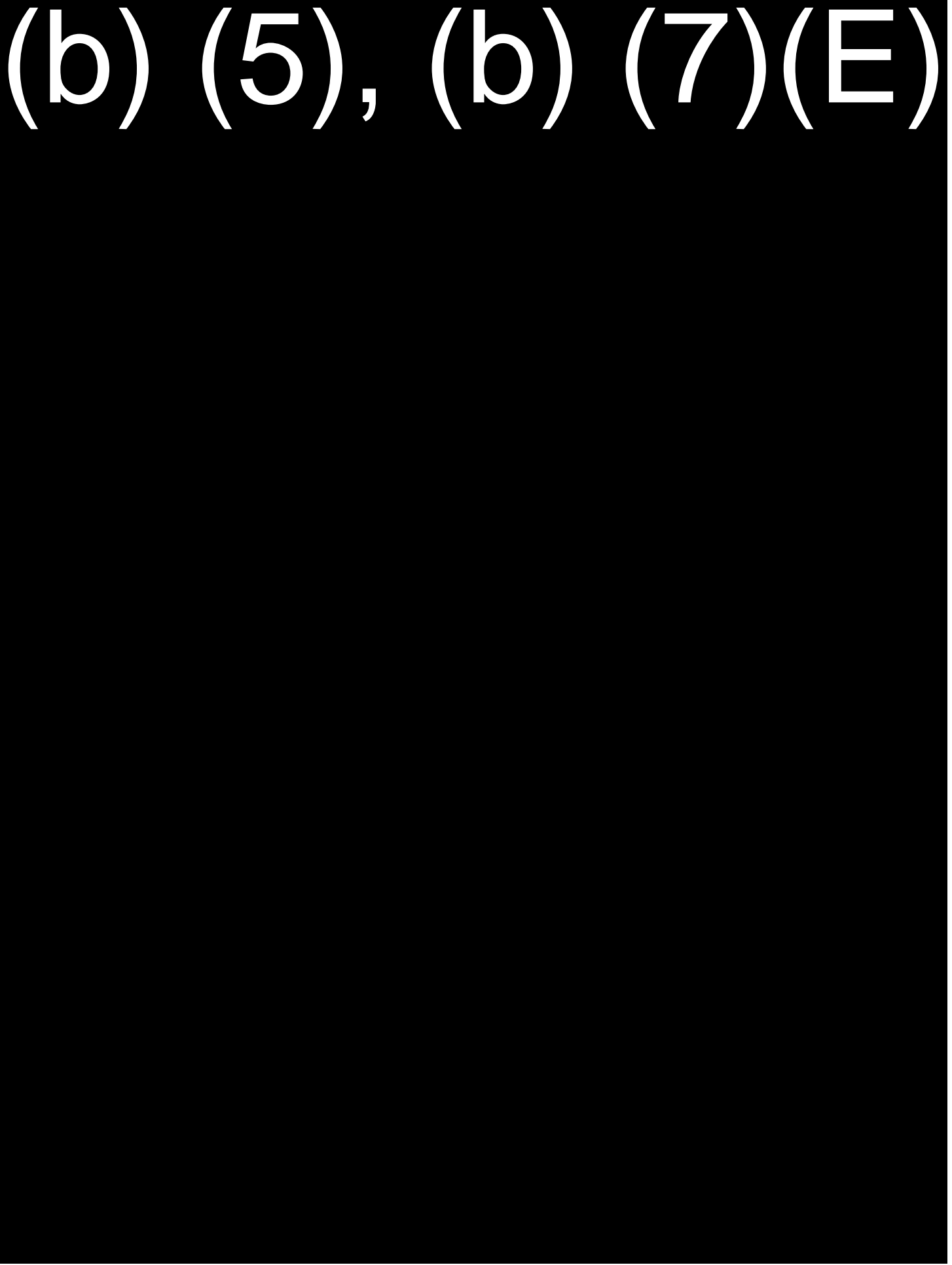
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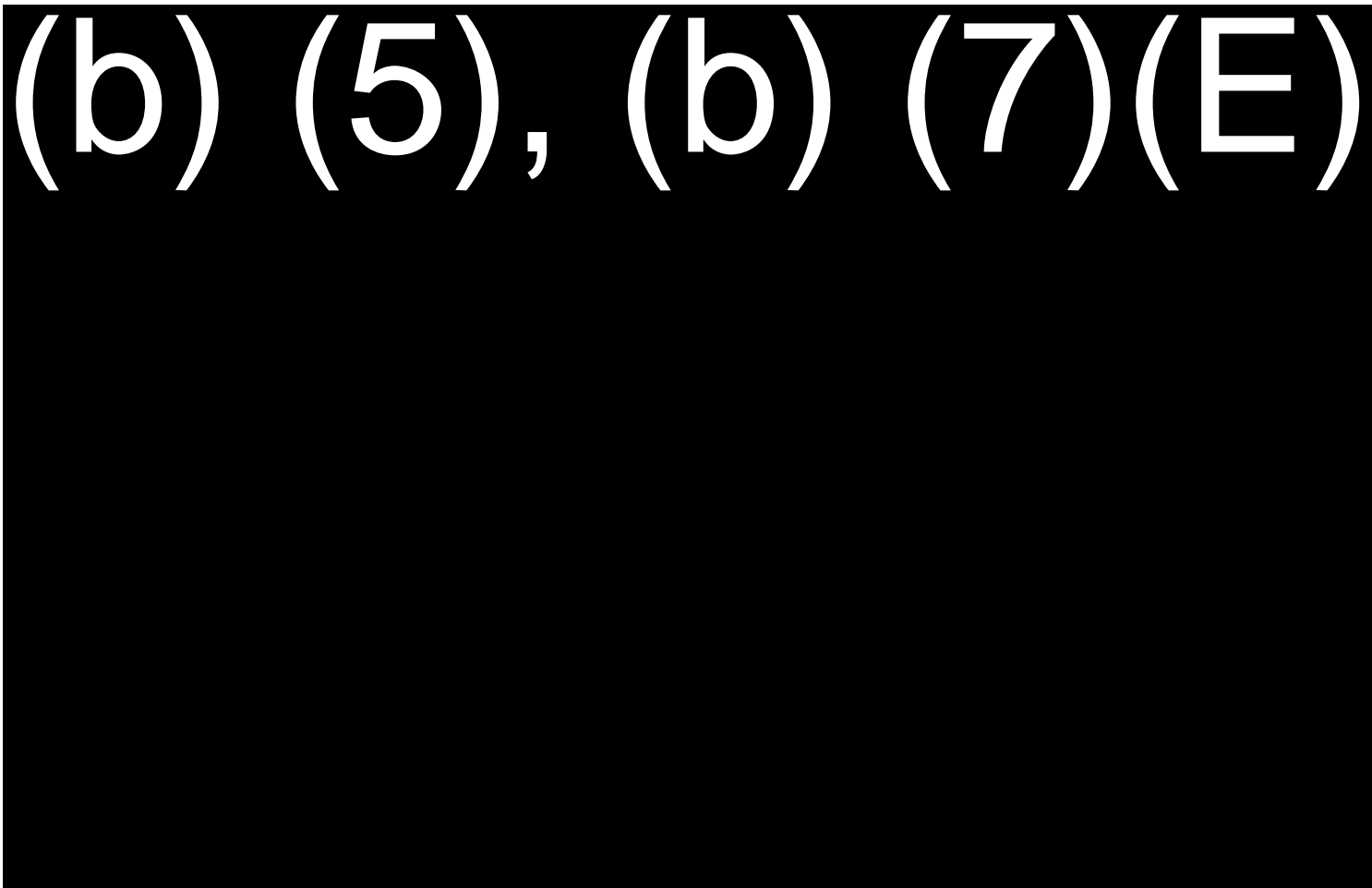
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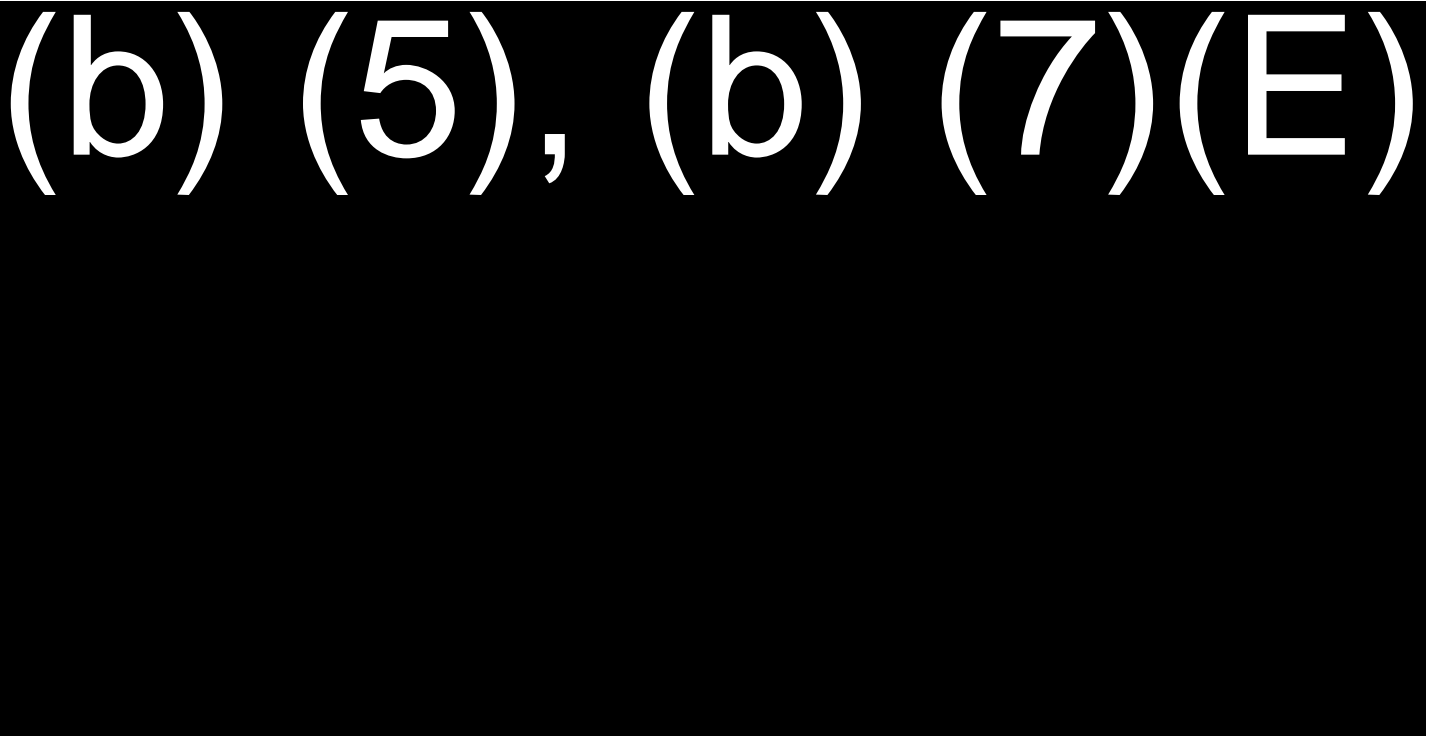
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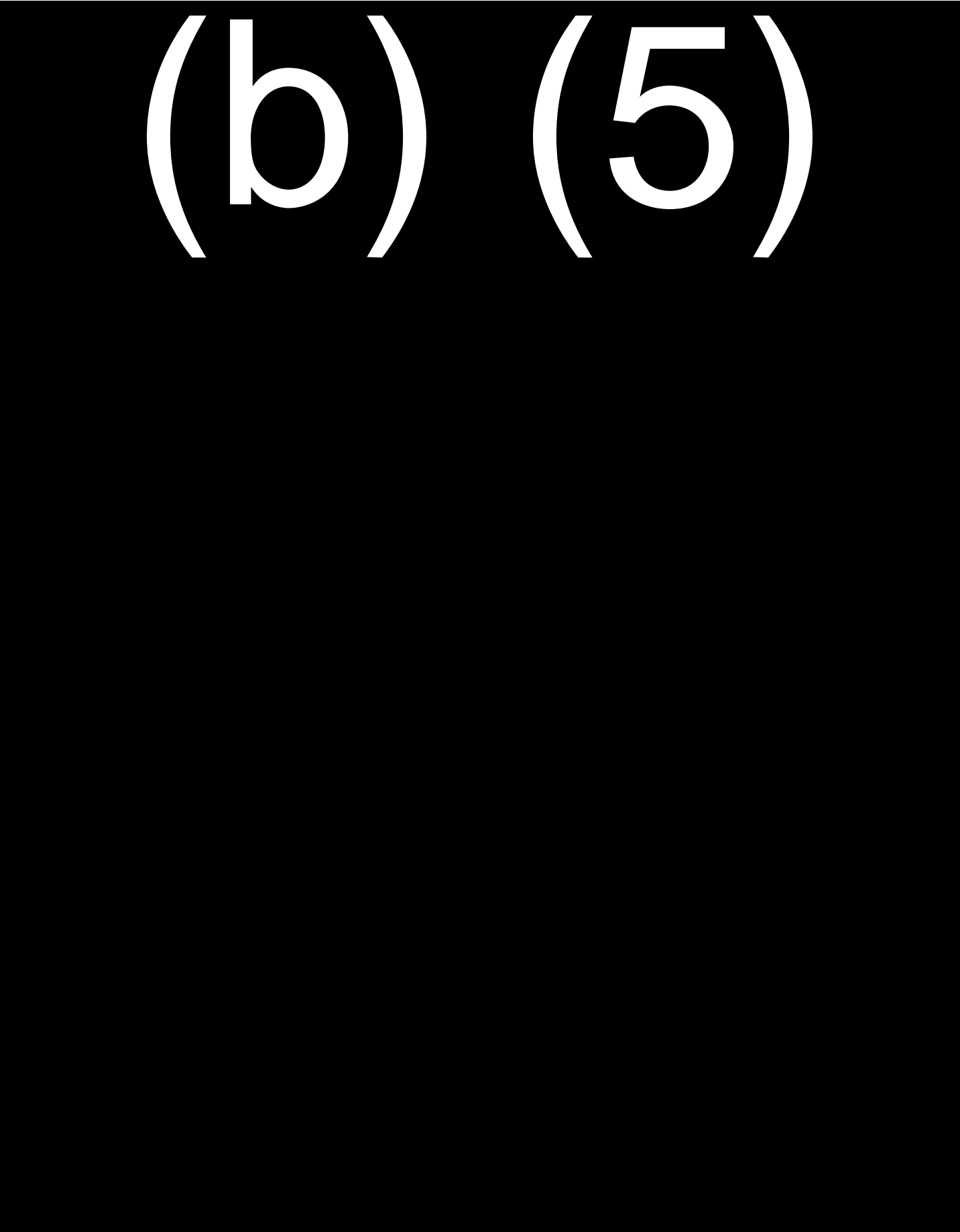
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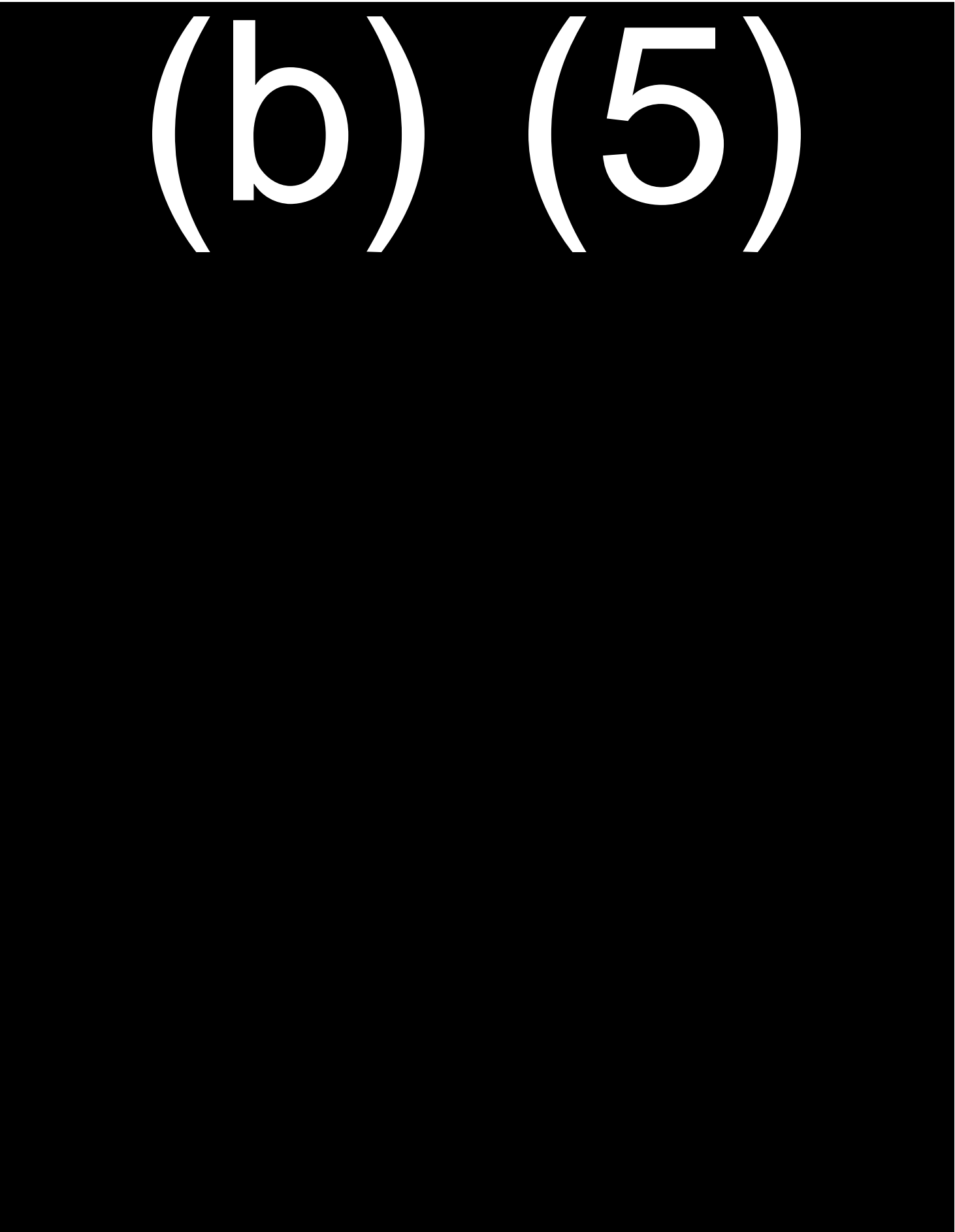
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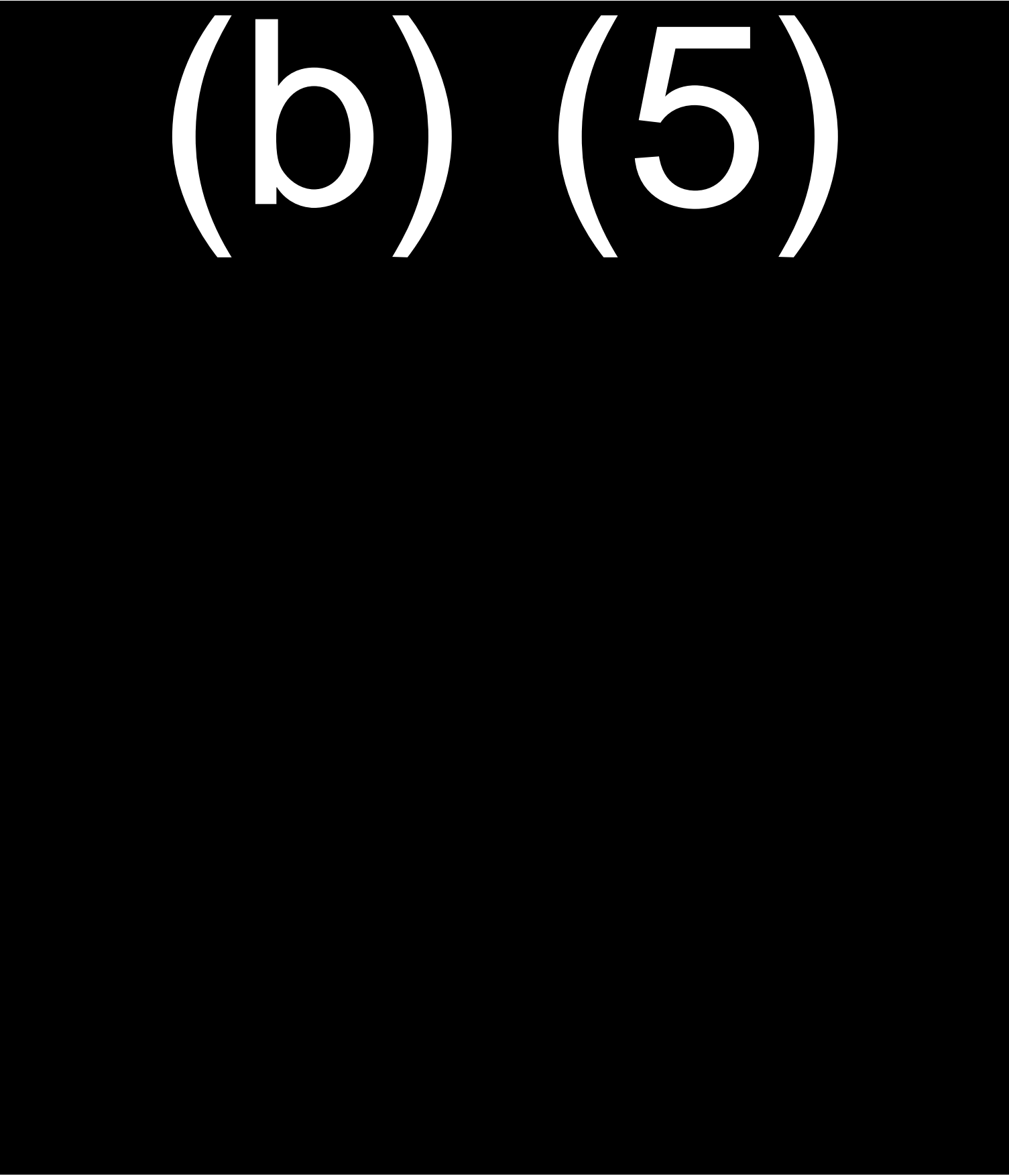


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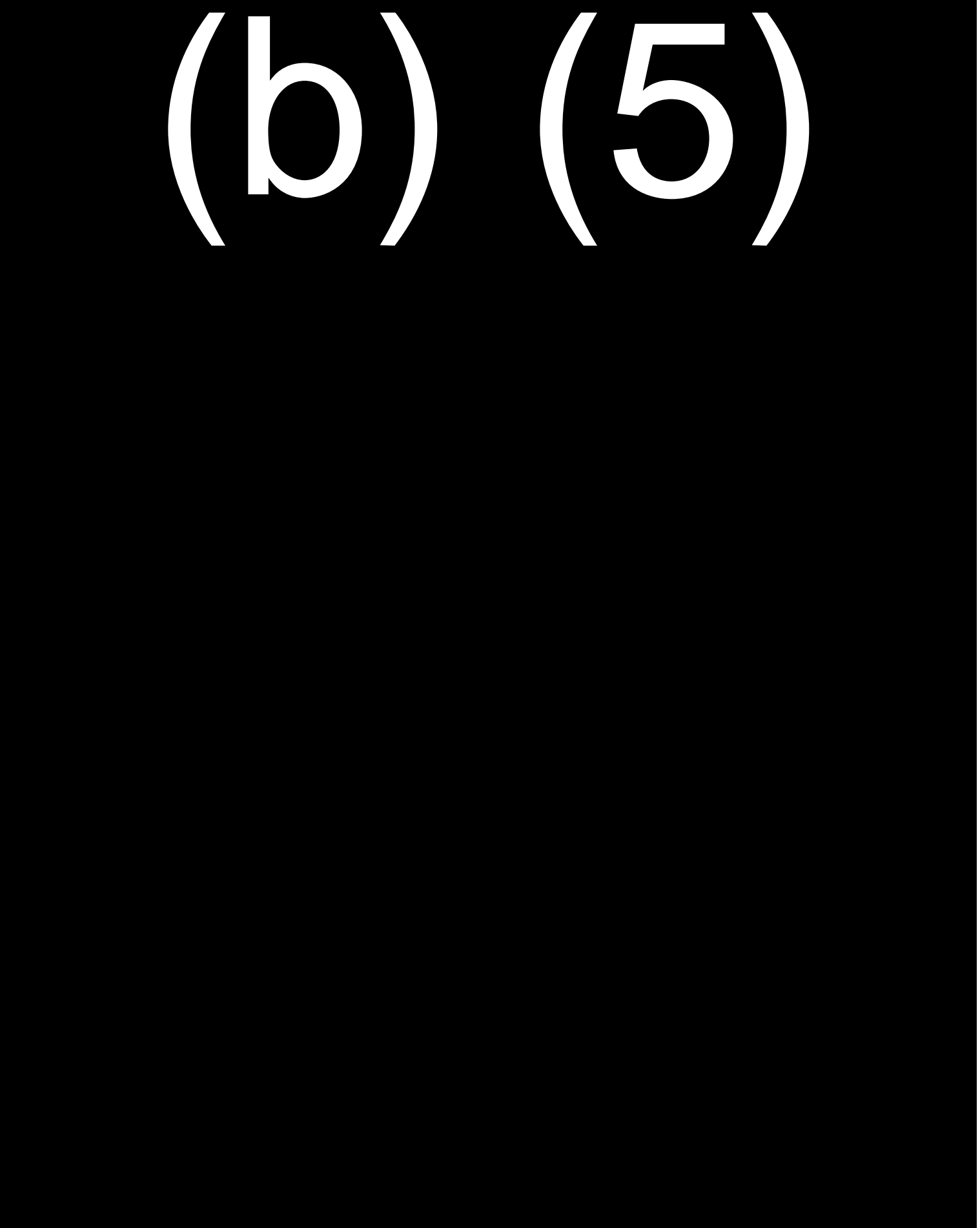
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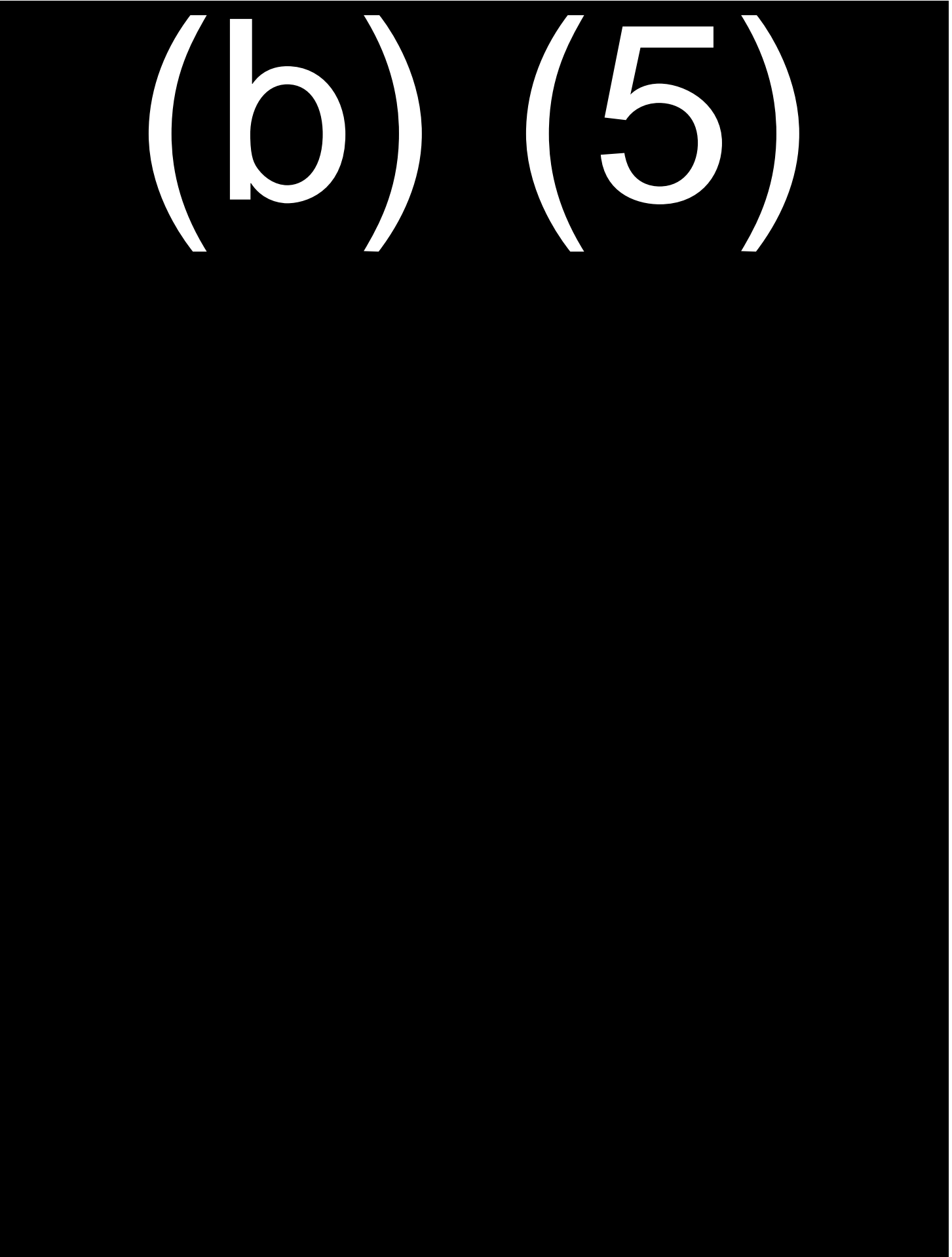
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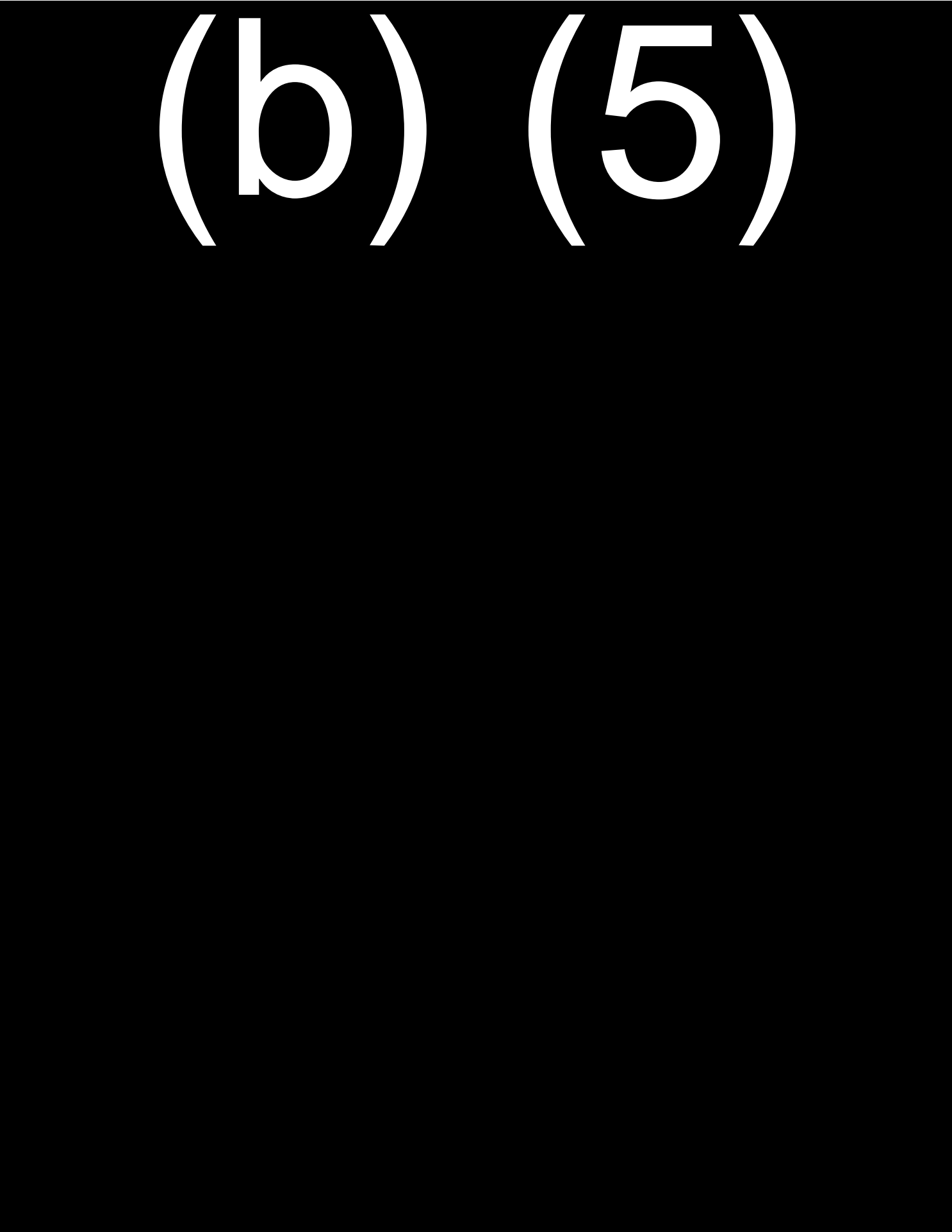
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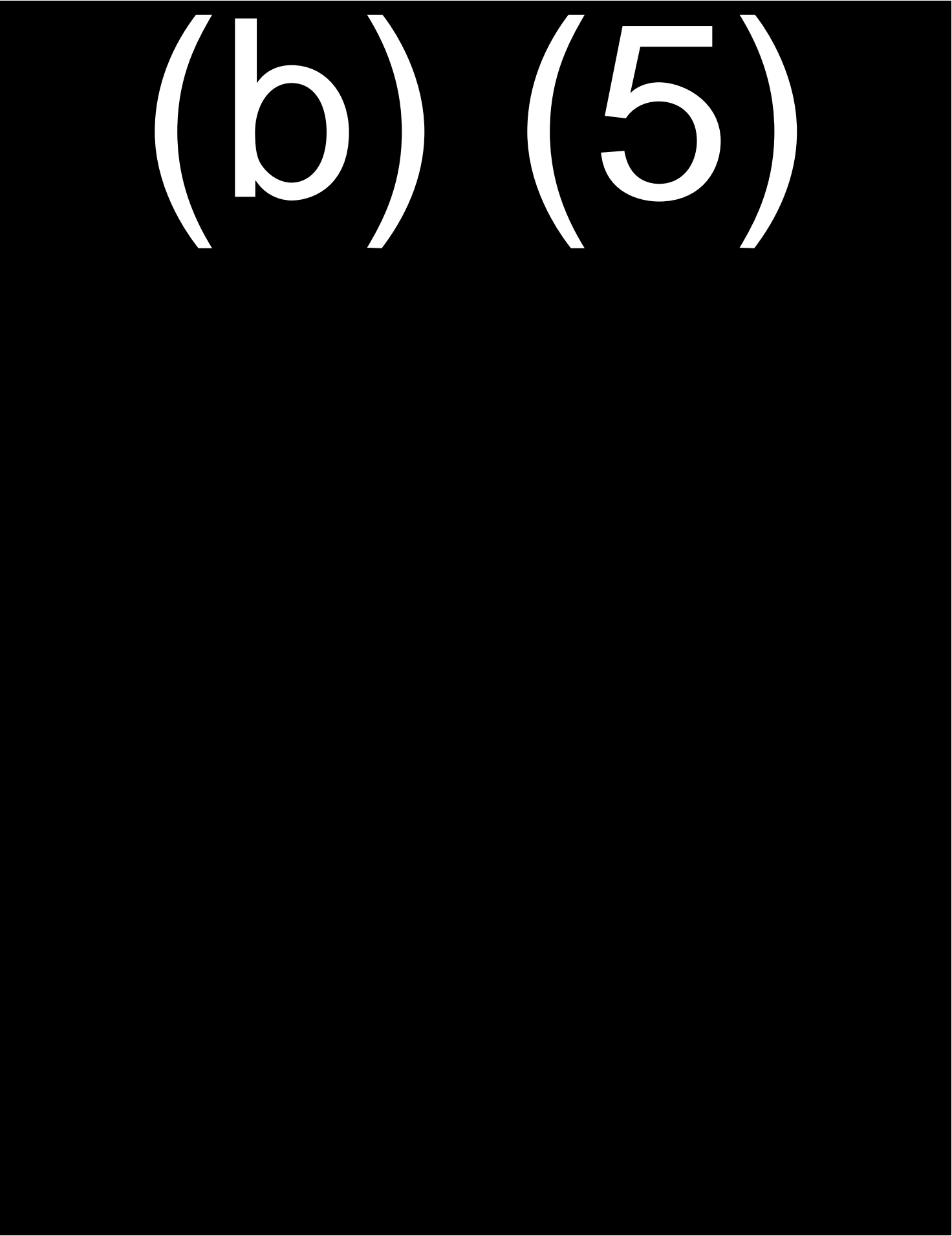


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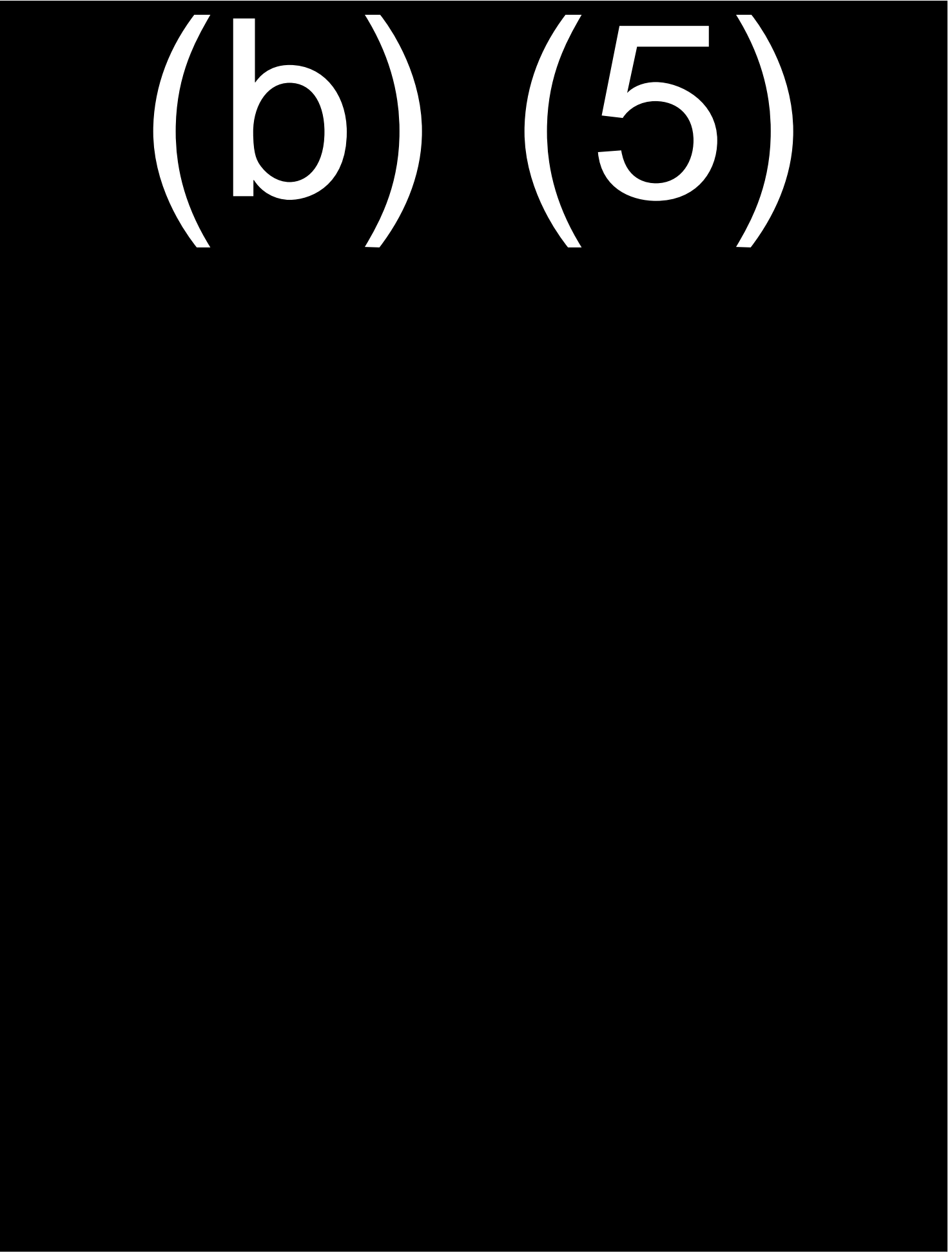


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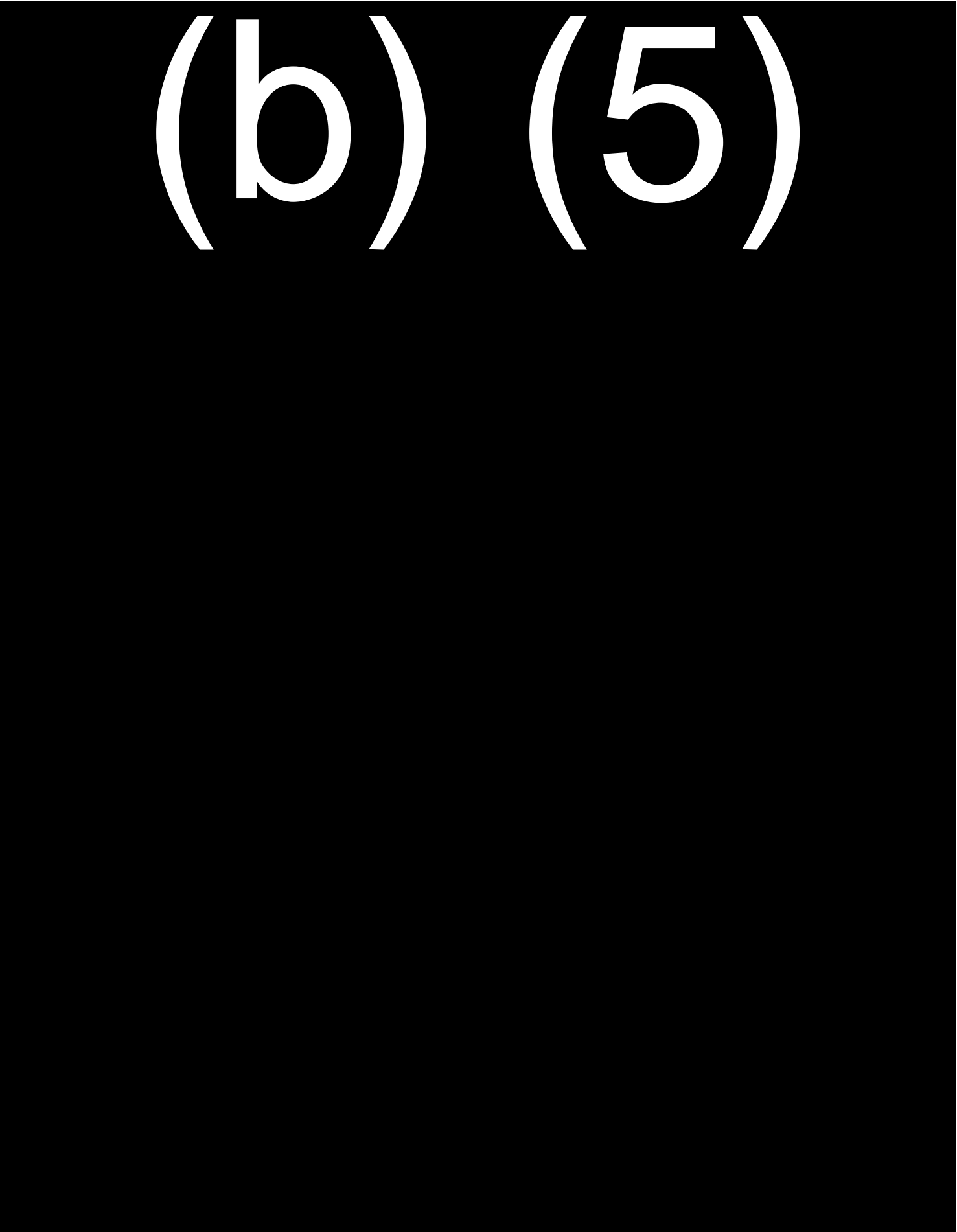
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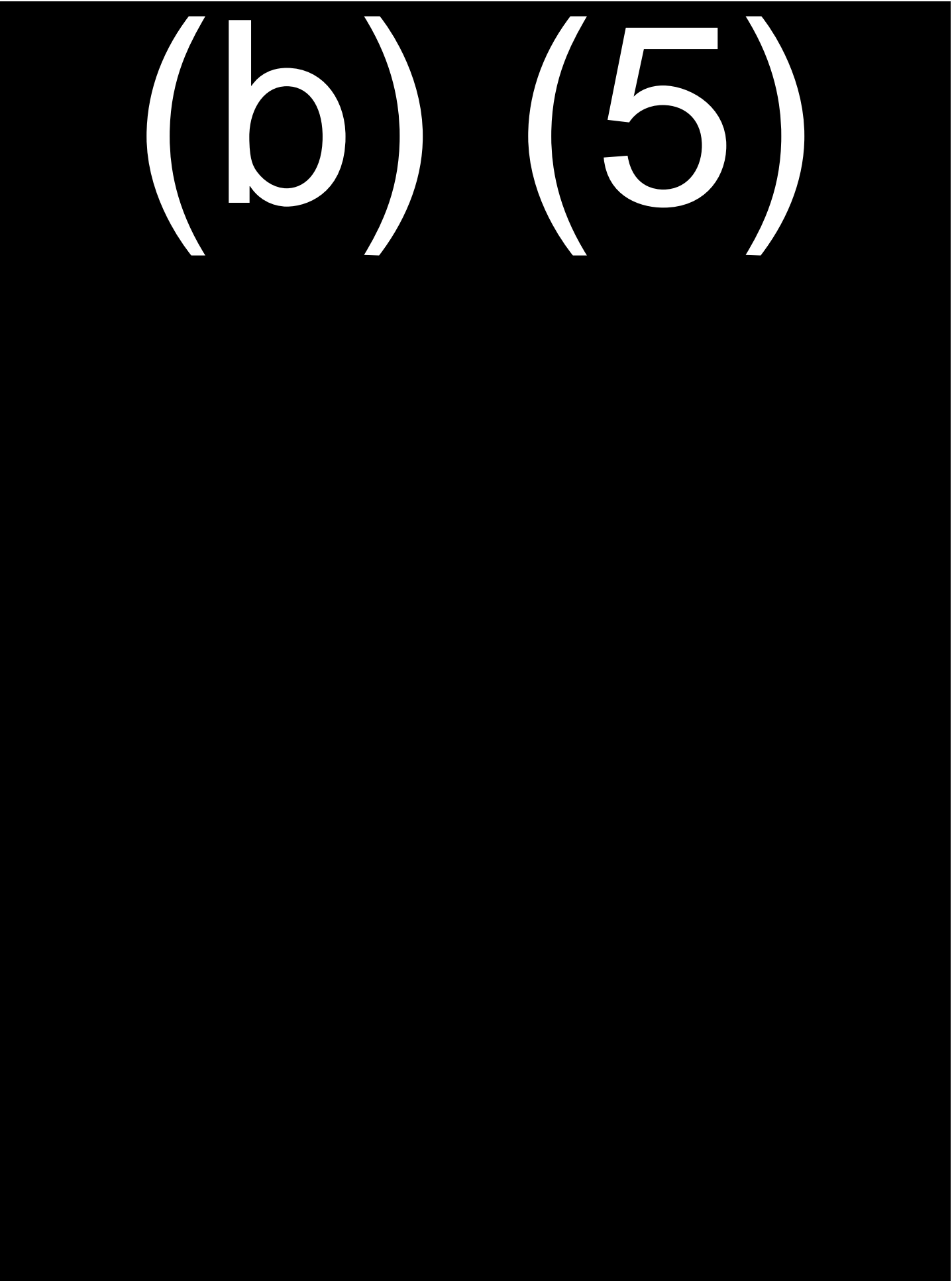
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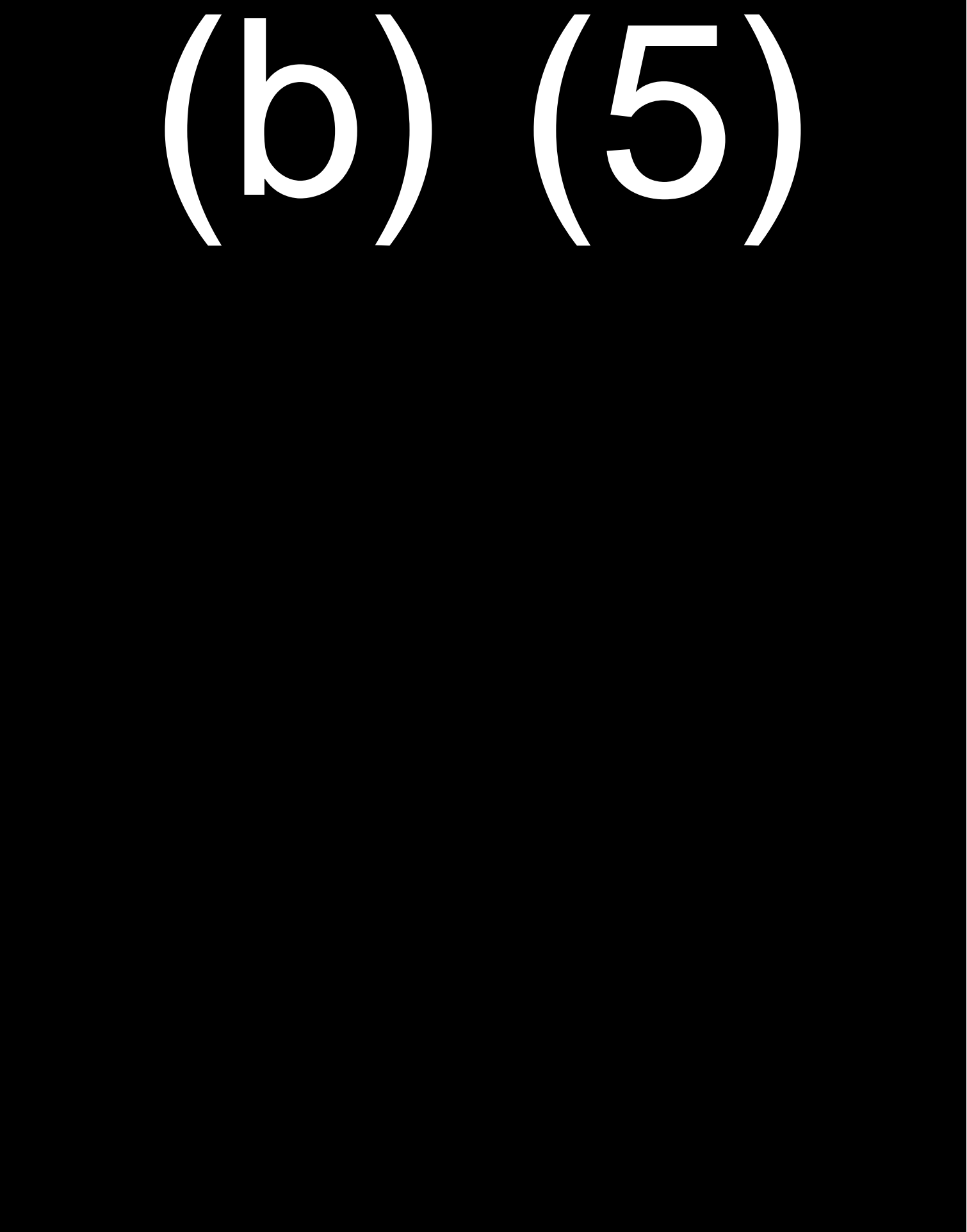
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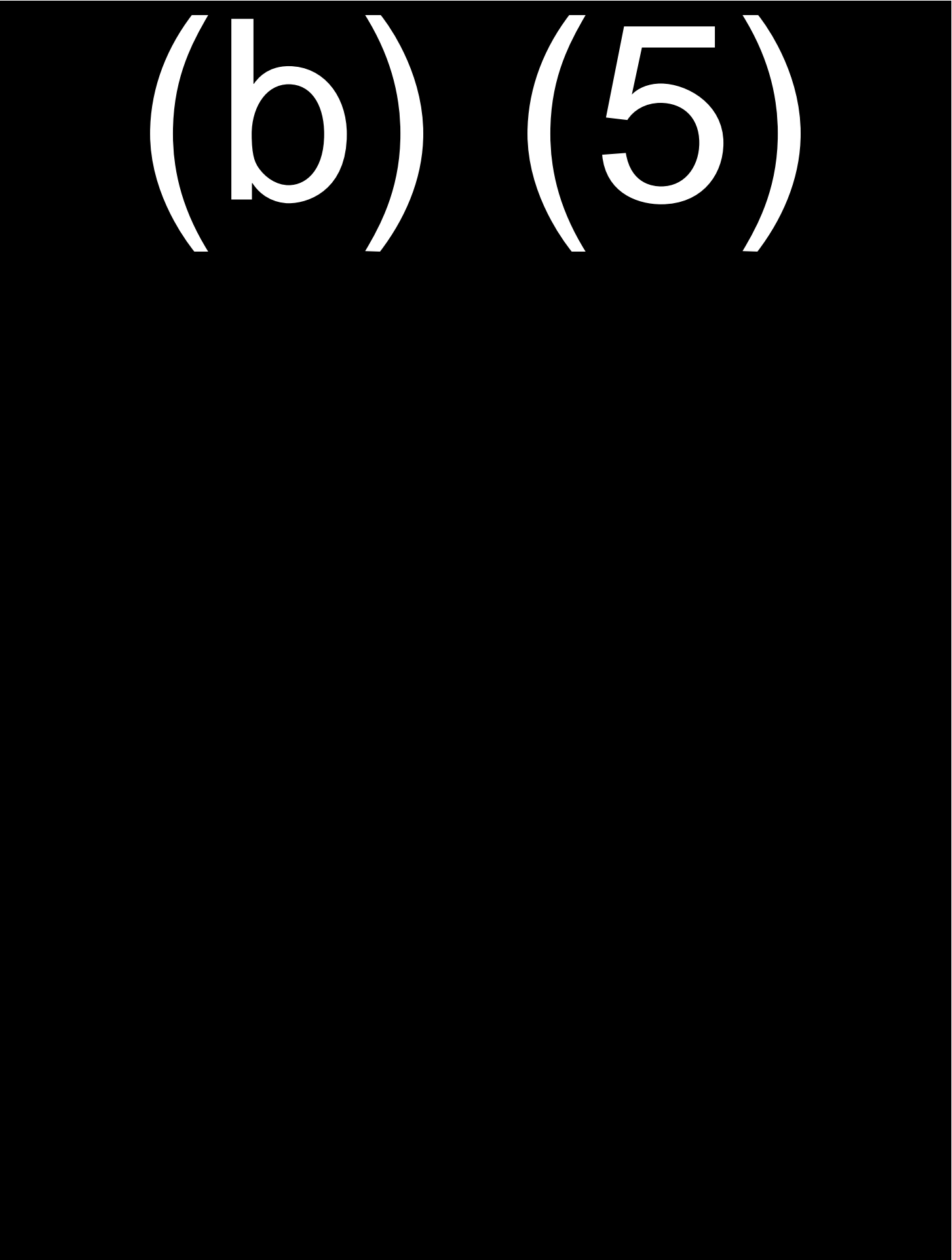
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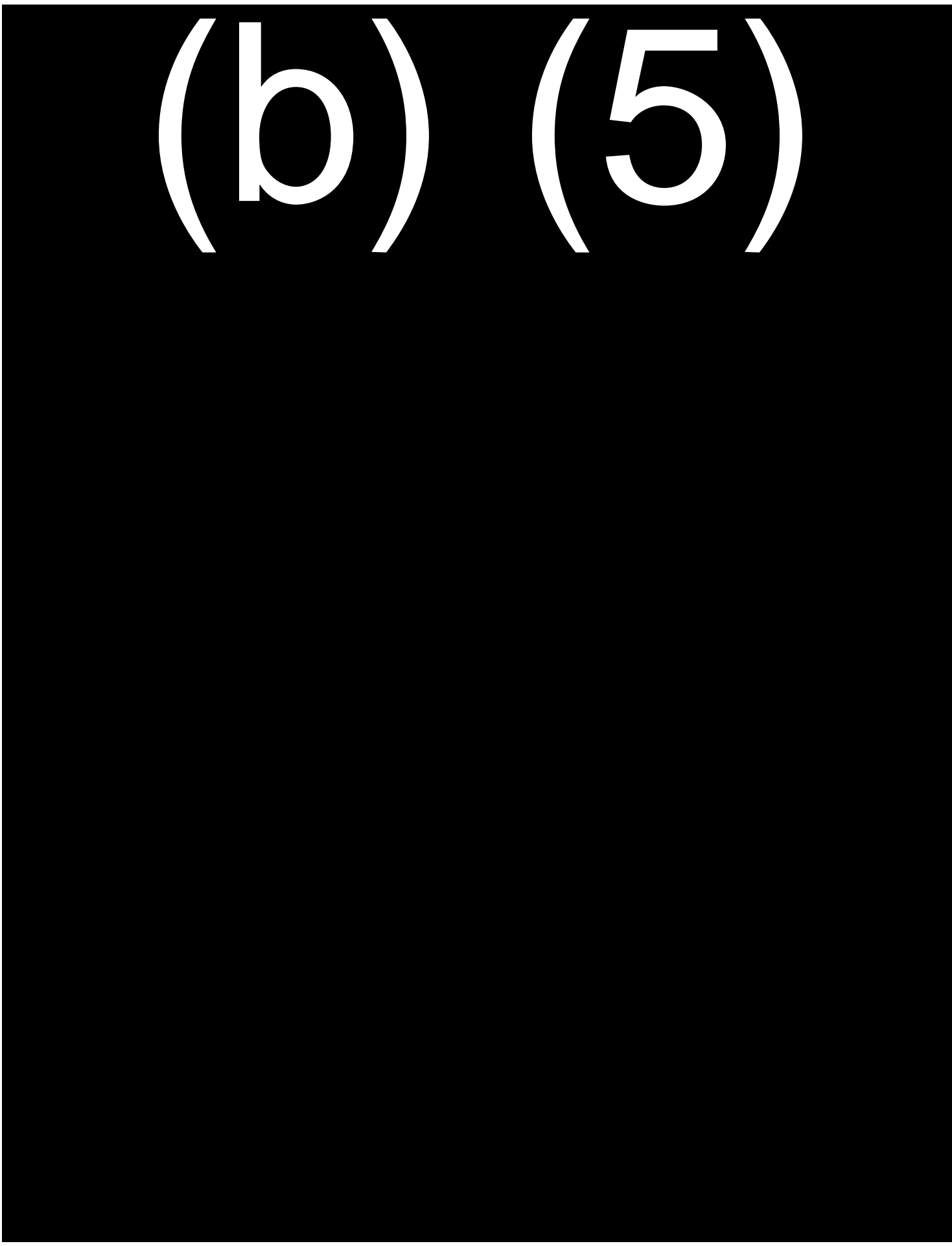
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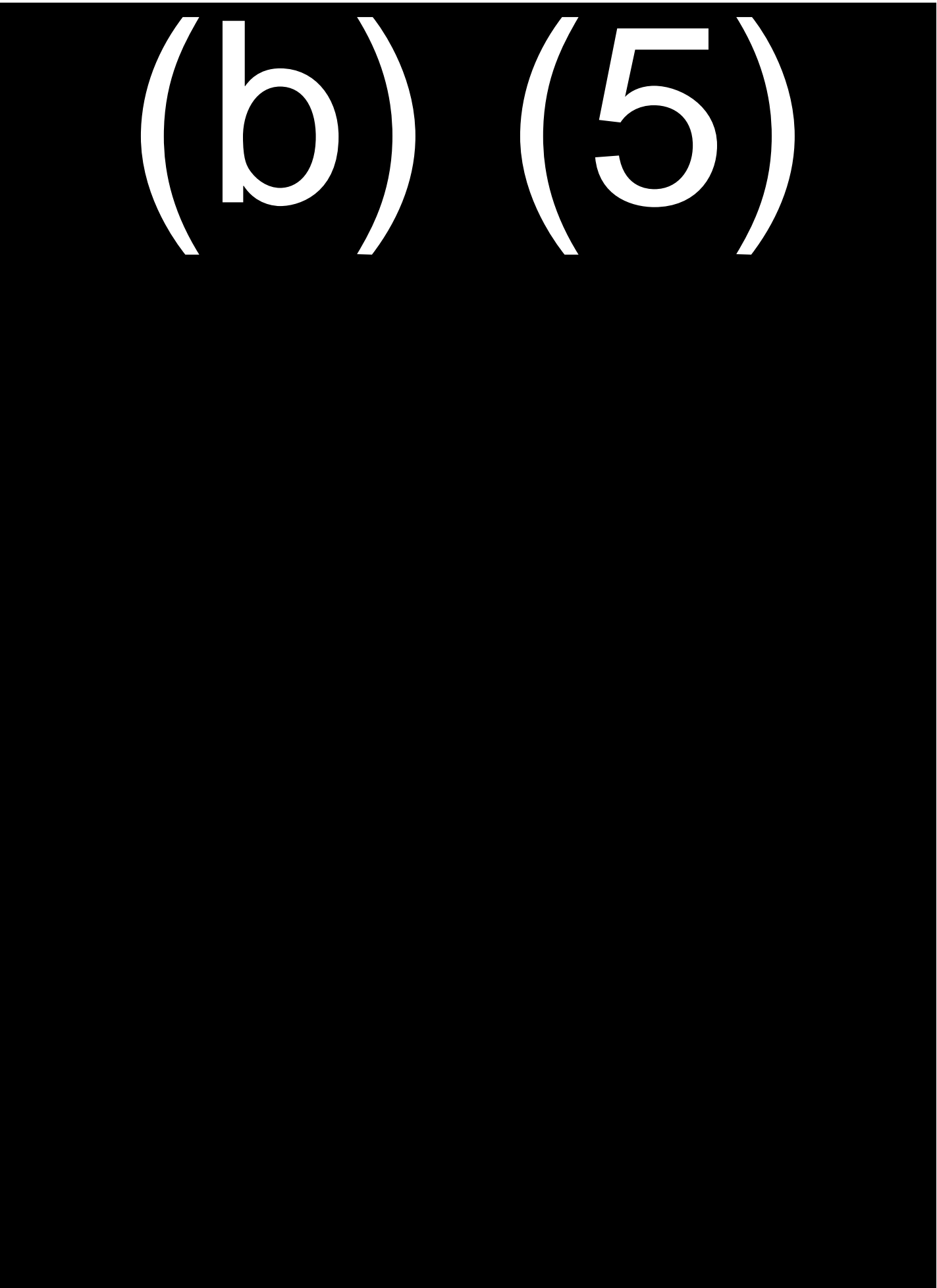
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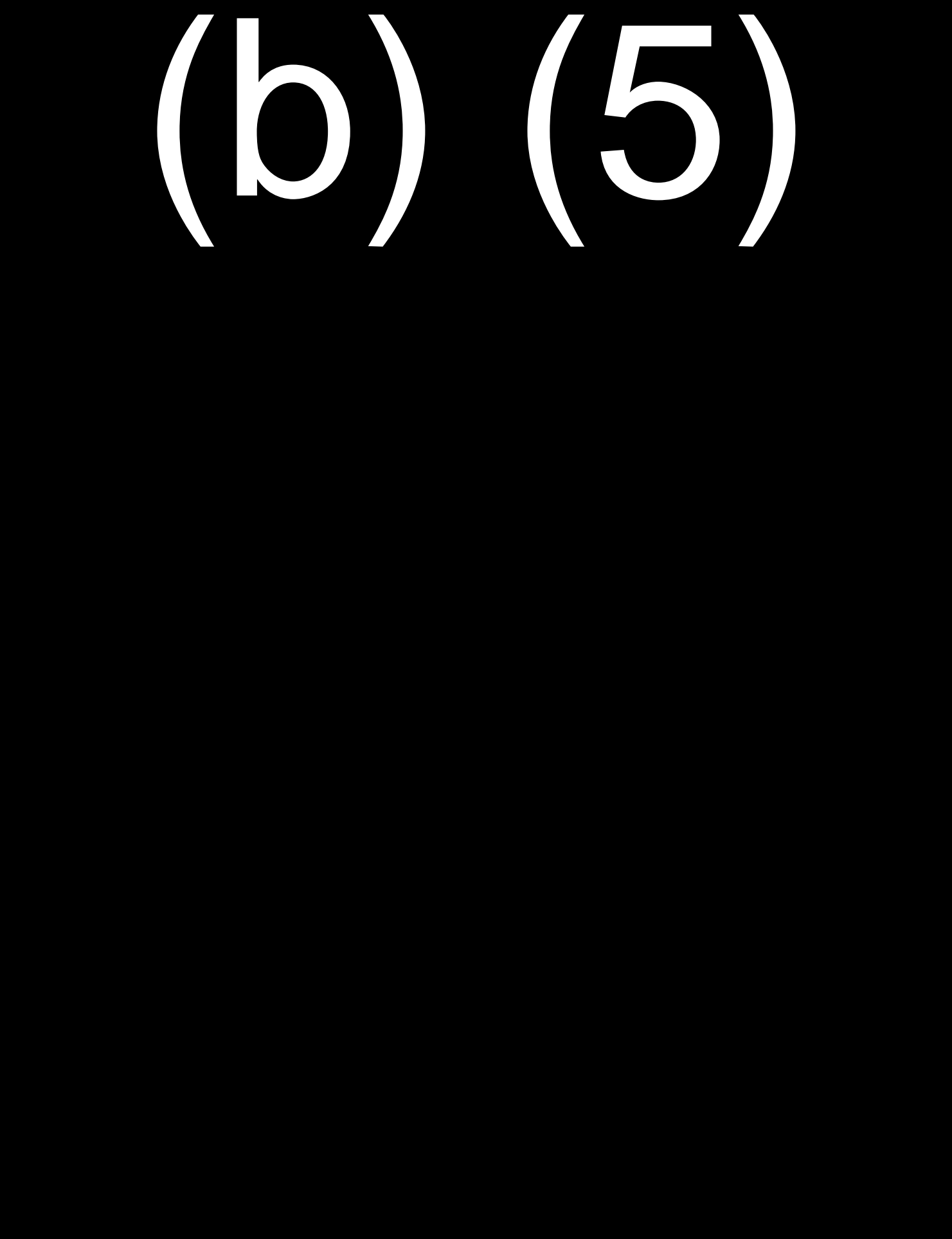
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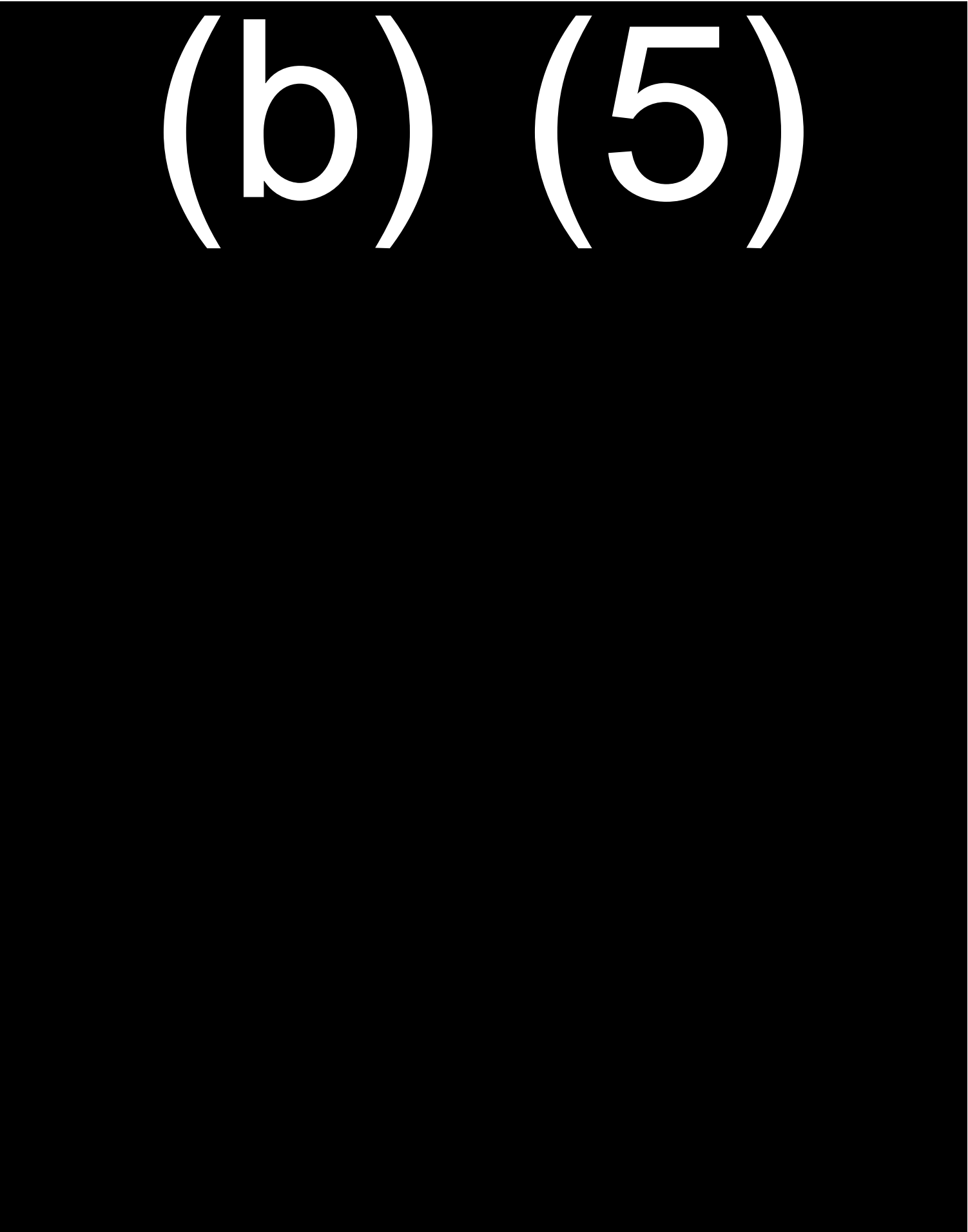
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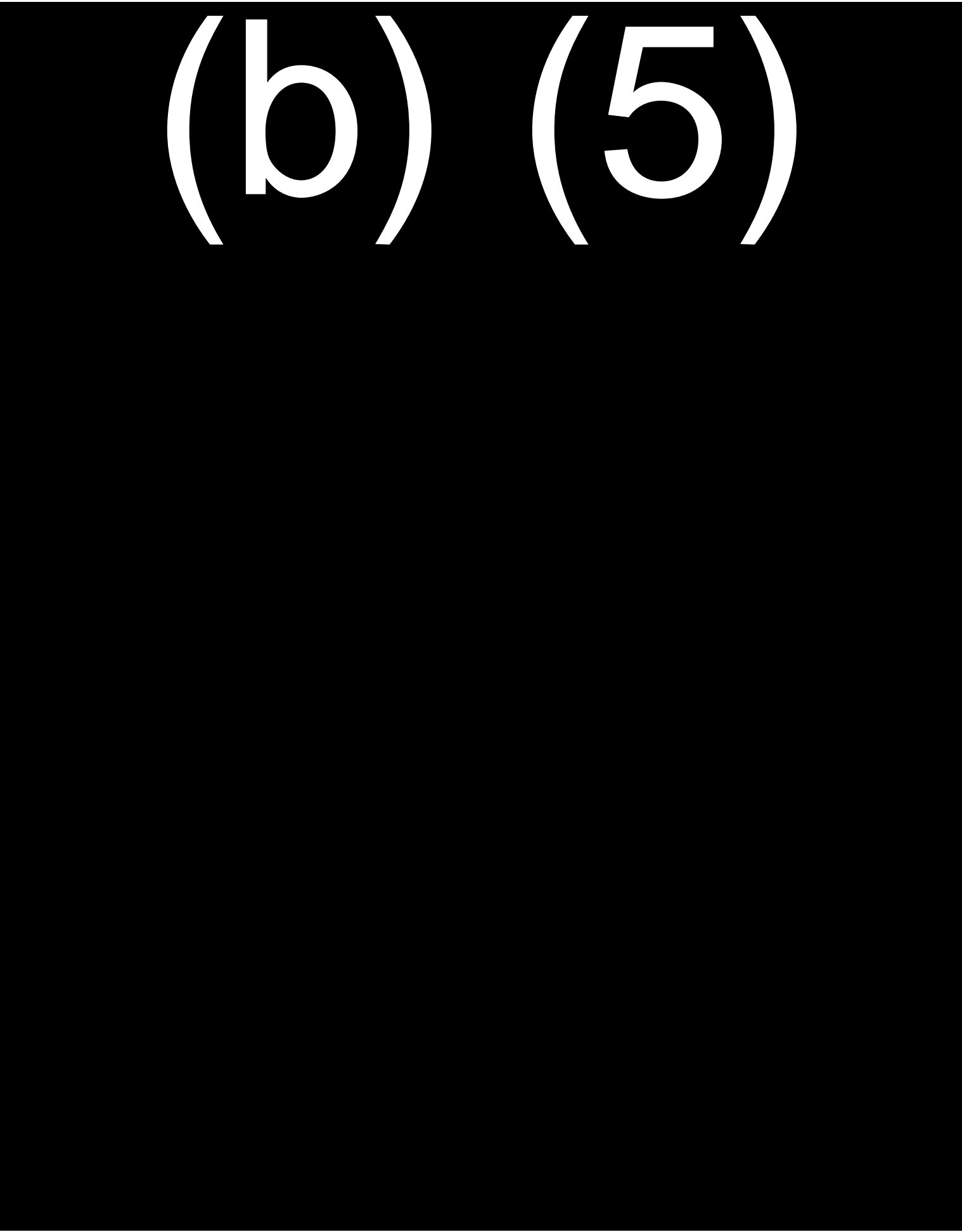
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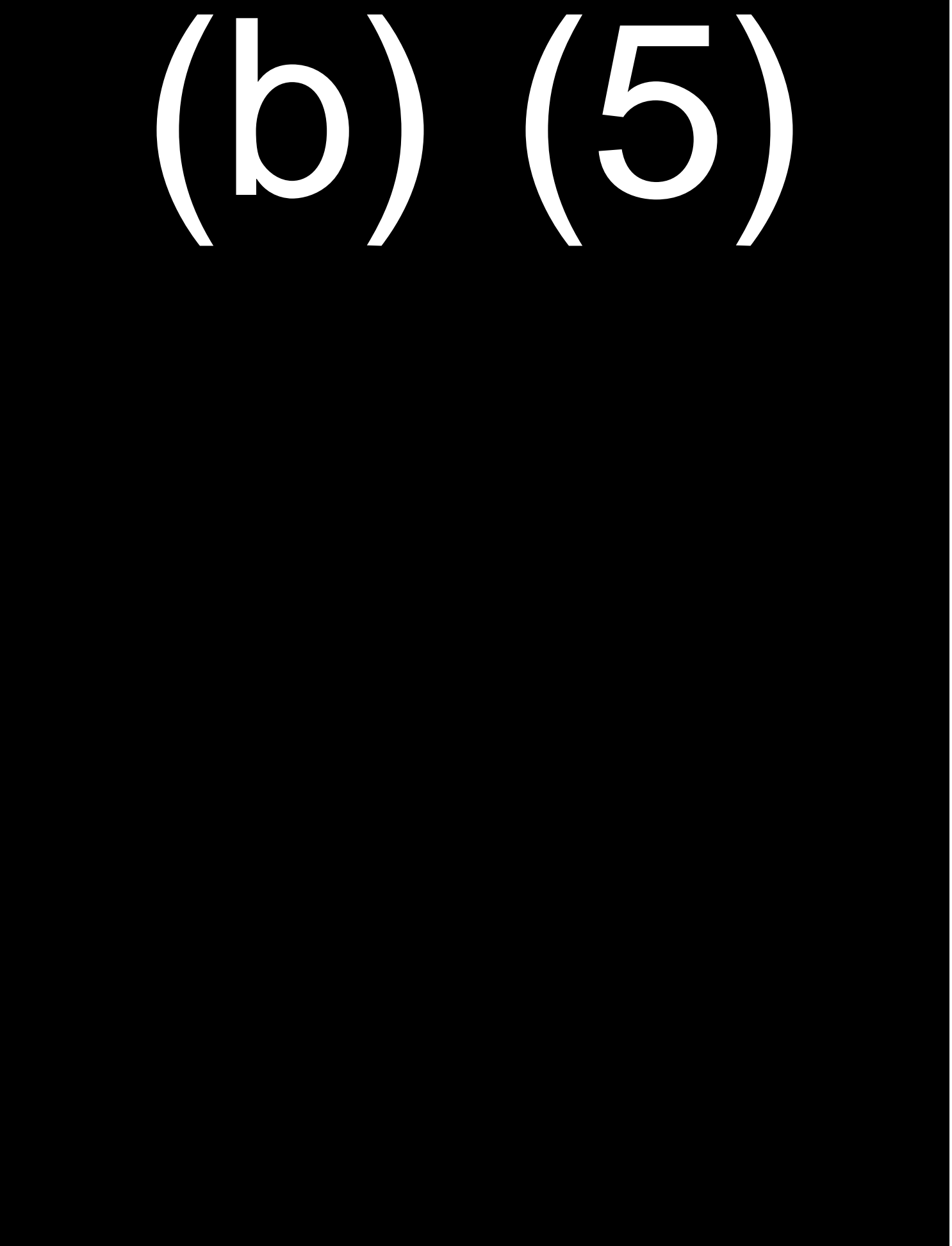
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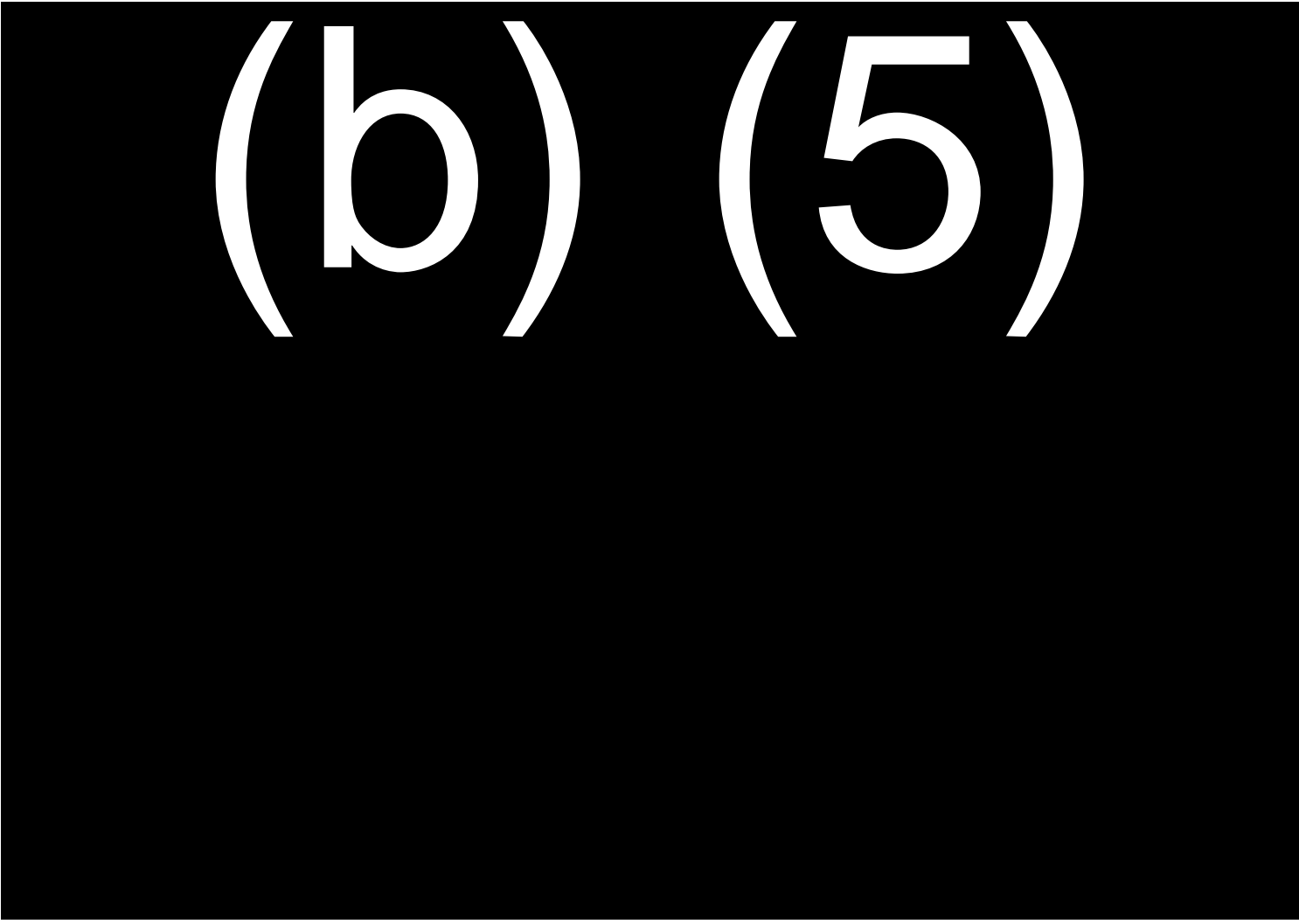
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(b) (5)

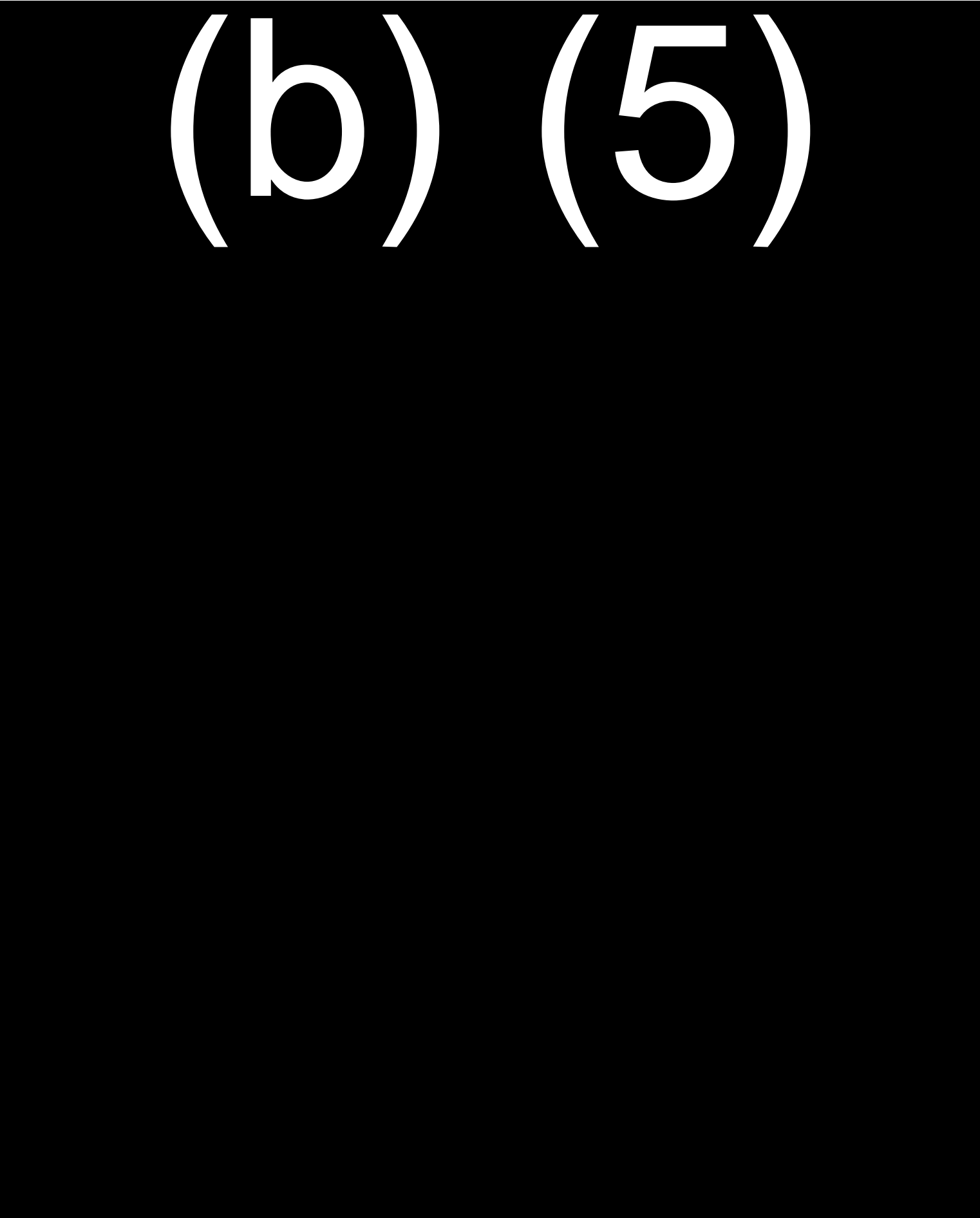


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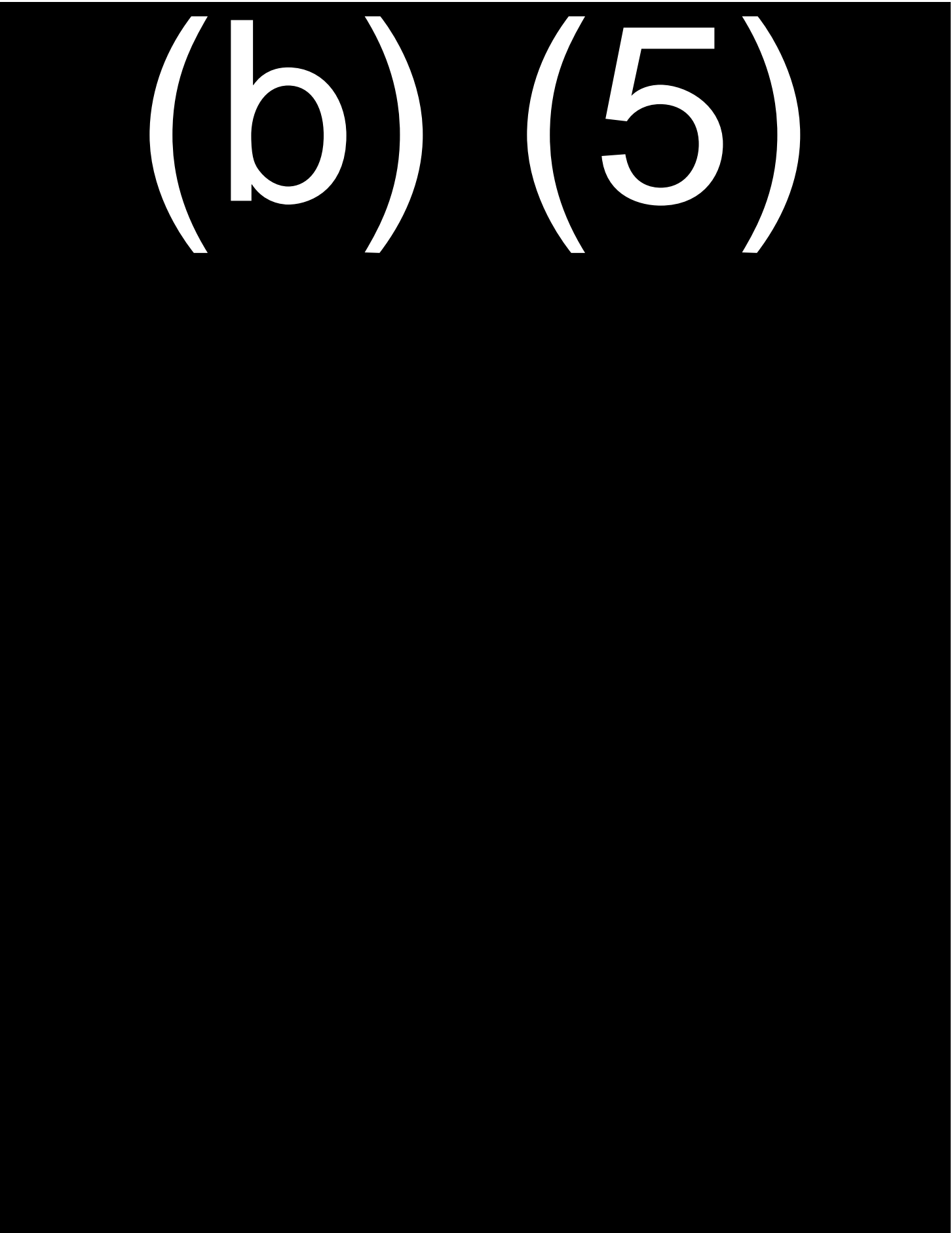


(b) (5)

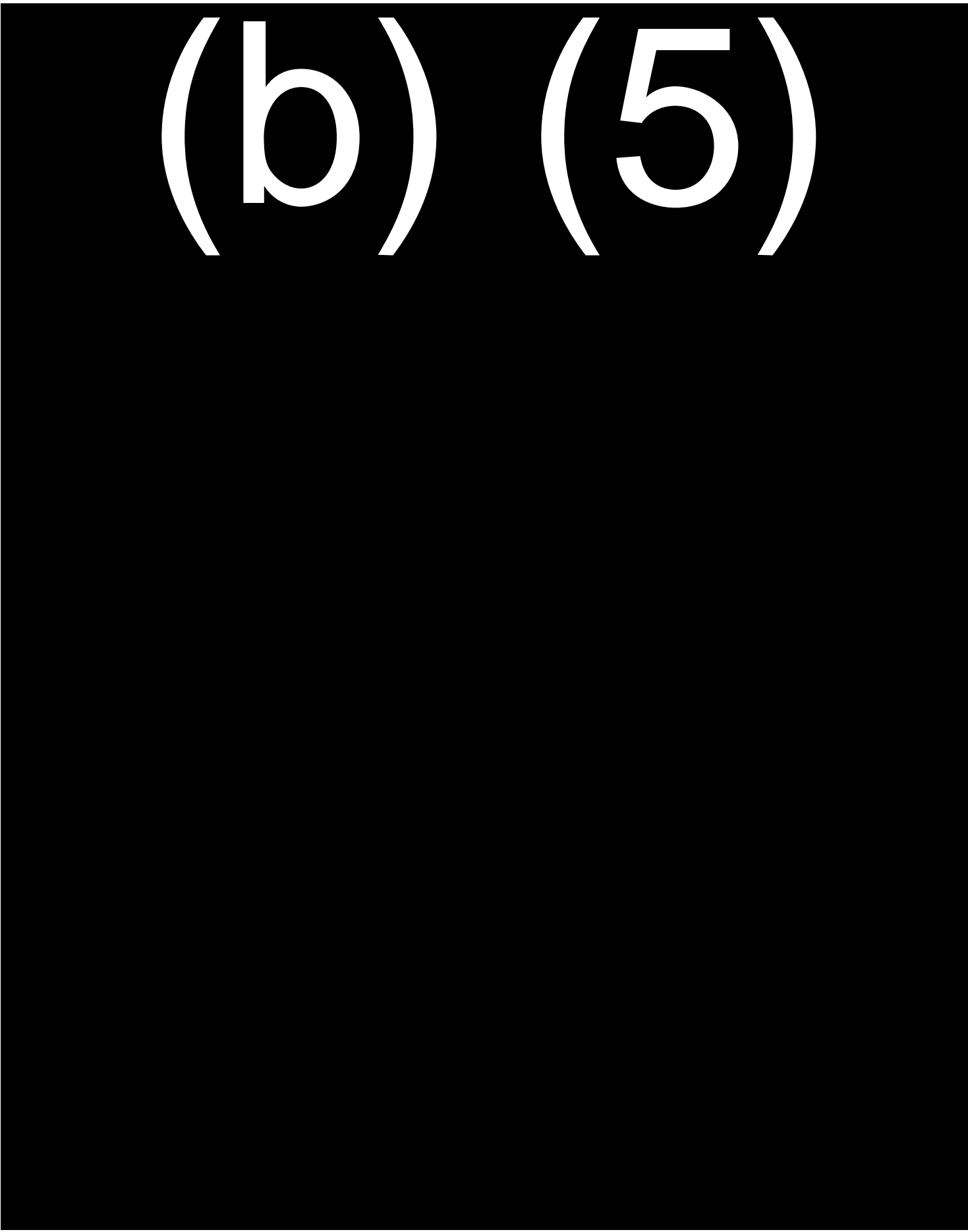
(b) (5)



(b) (5)



(b) (5)

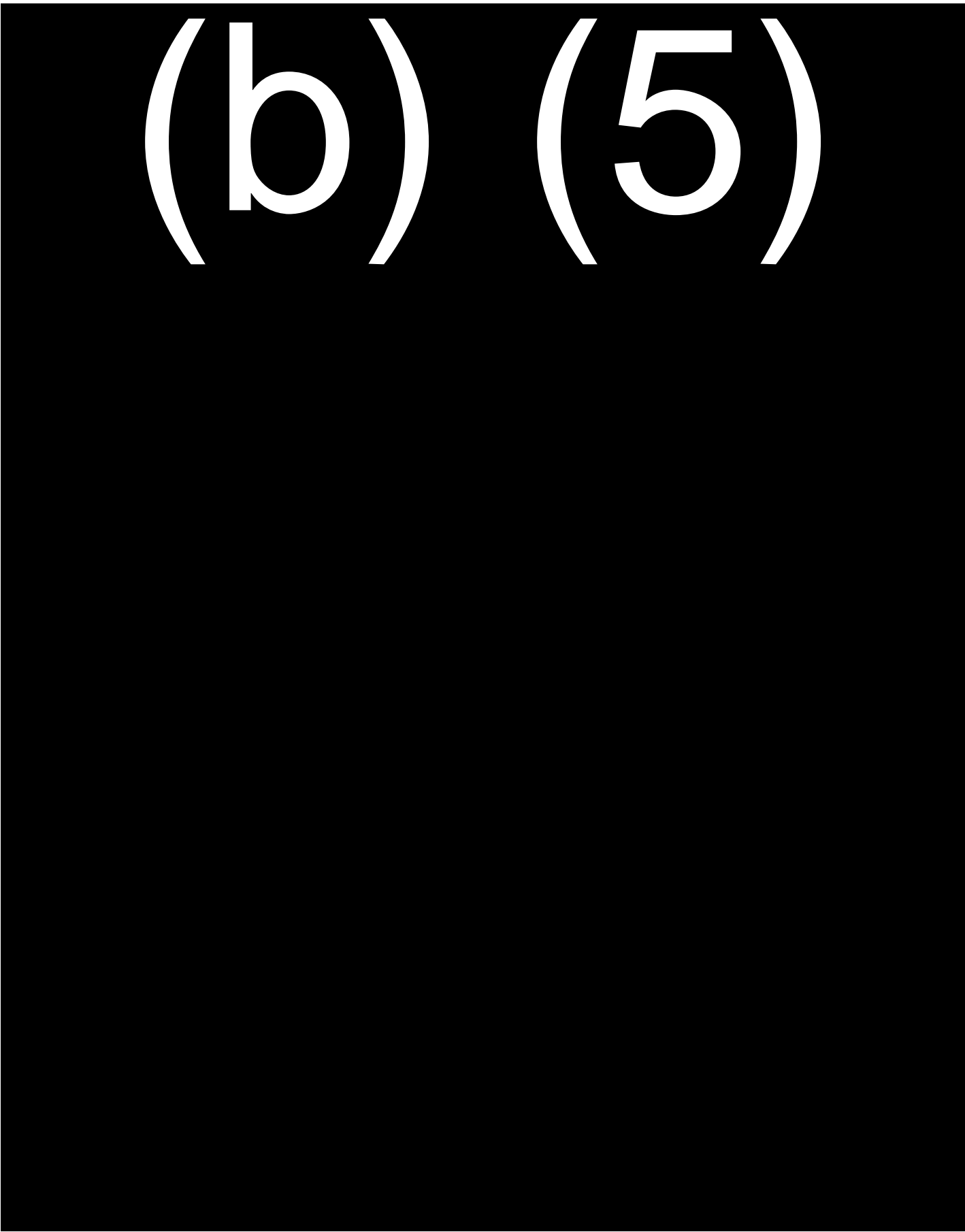


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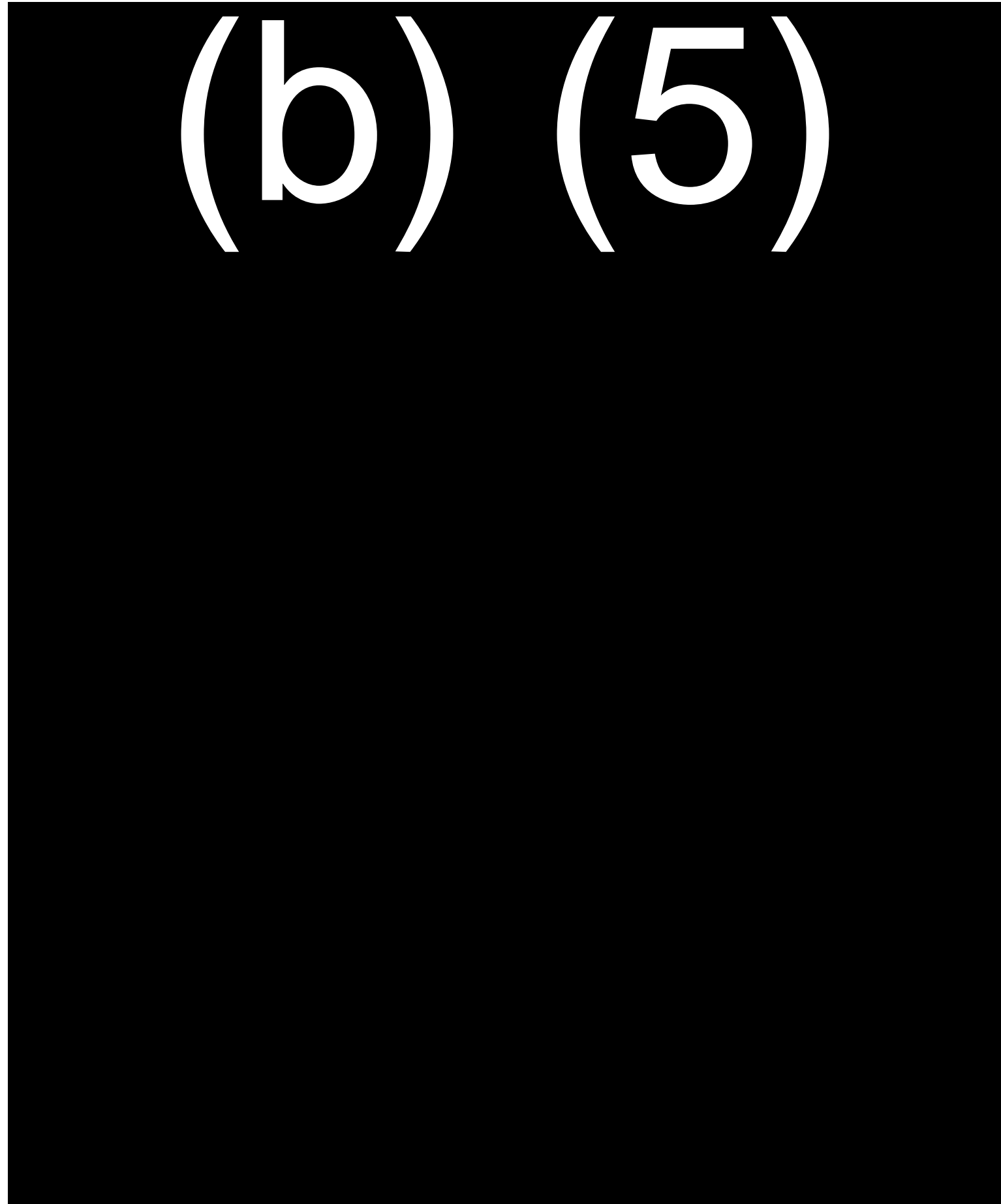
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(b) (5)

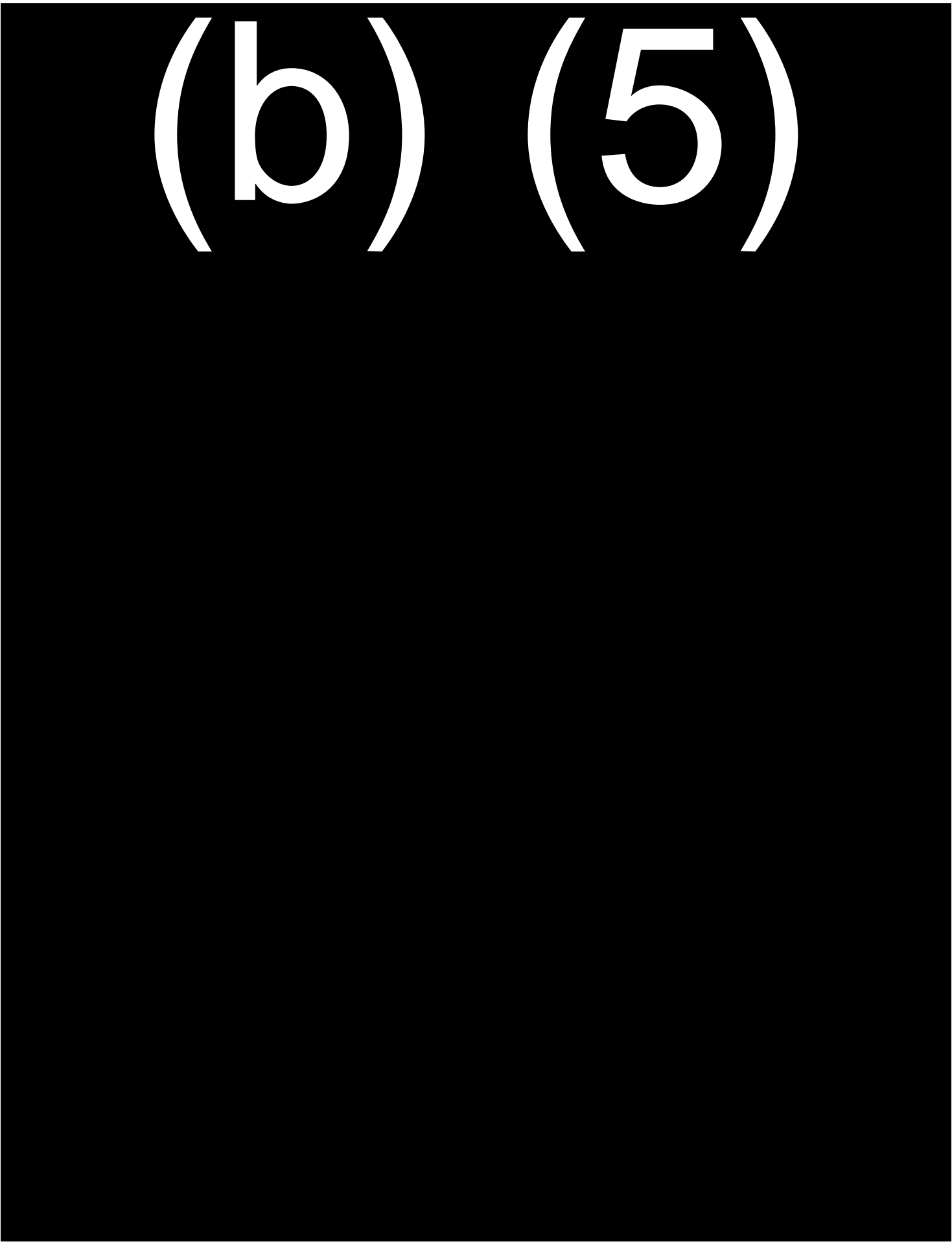


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(b) (5)



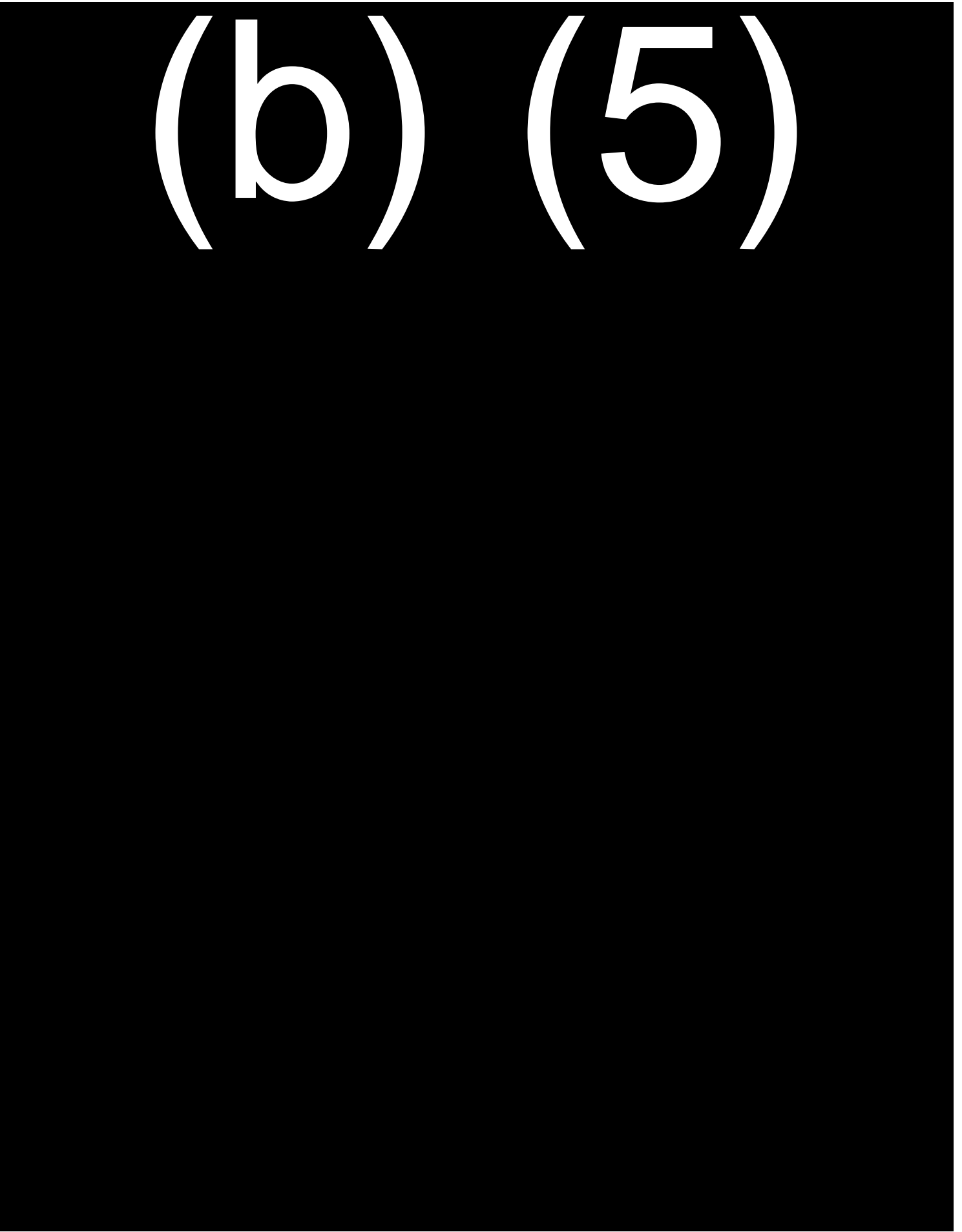
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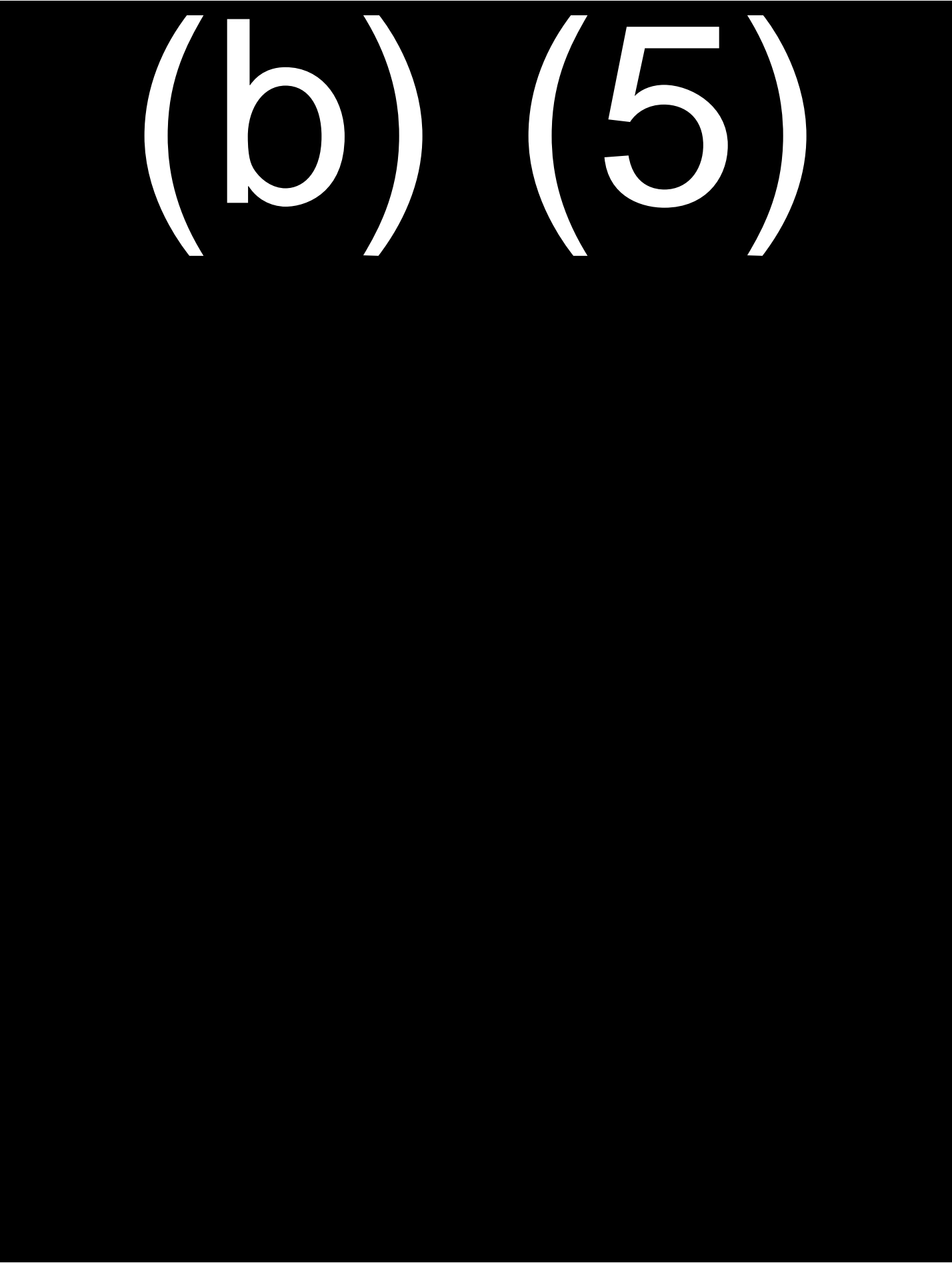
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(b) (5)

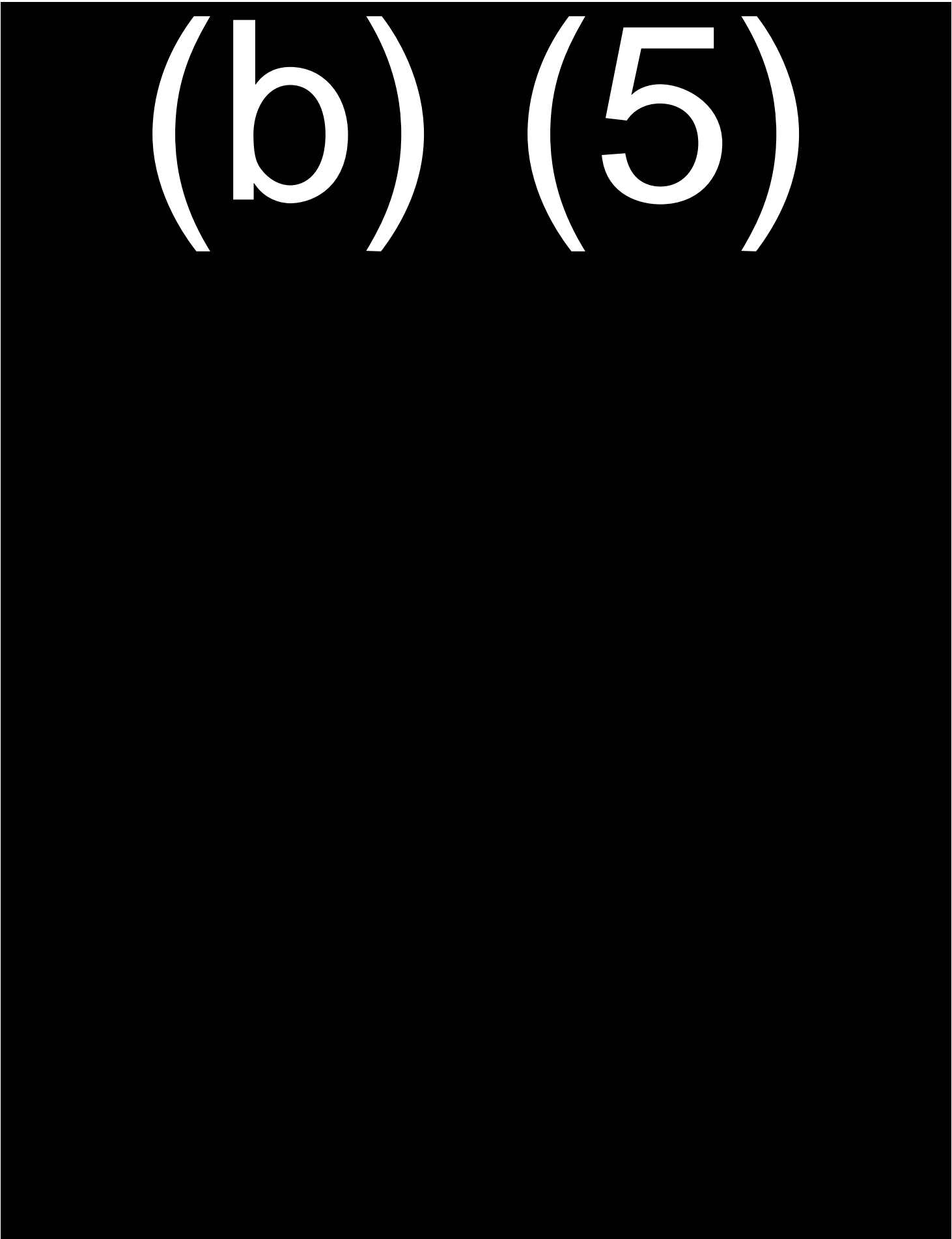
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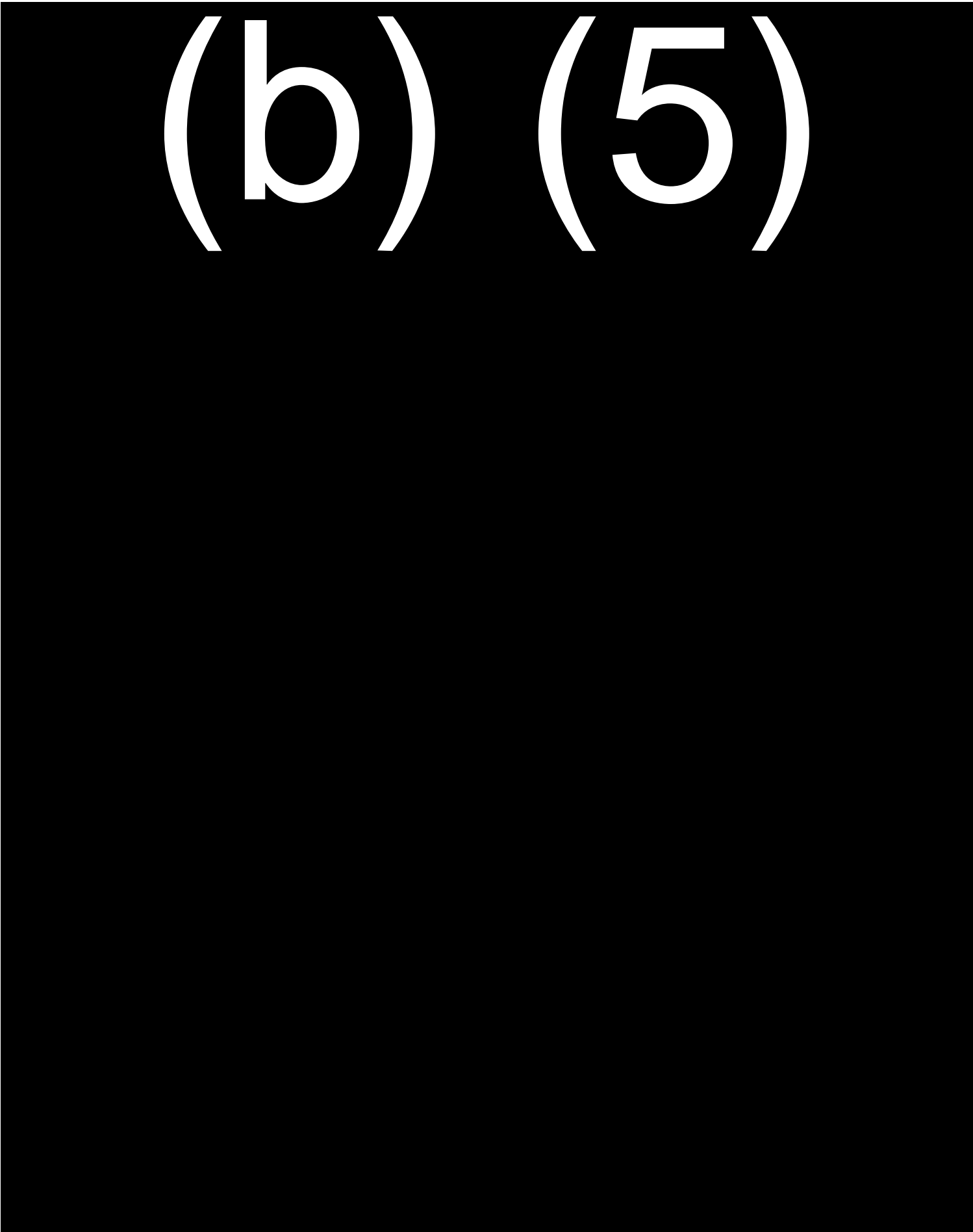
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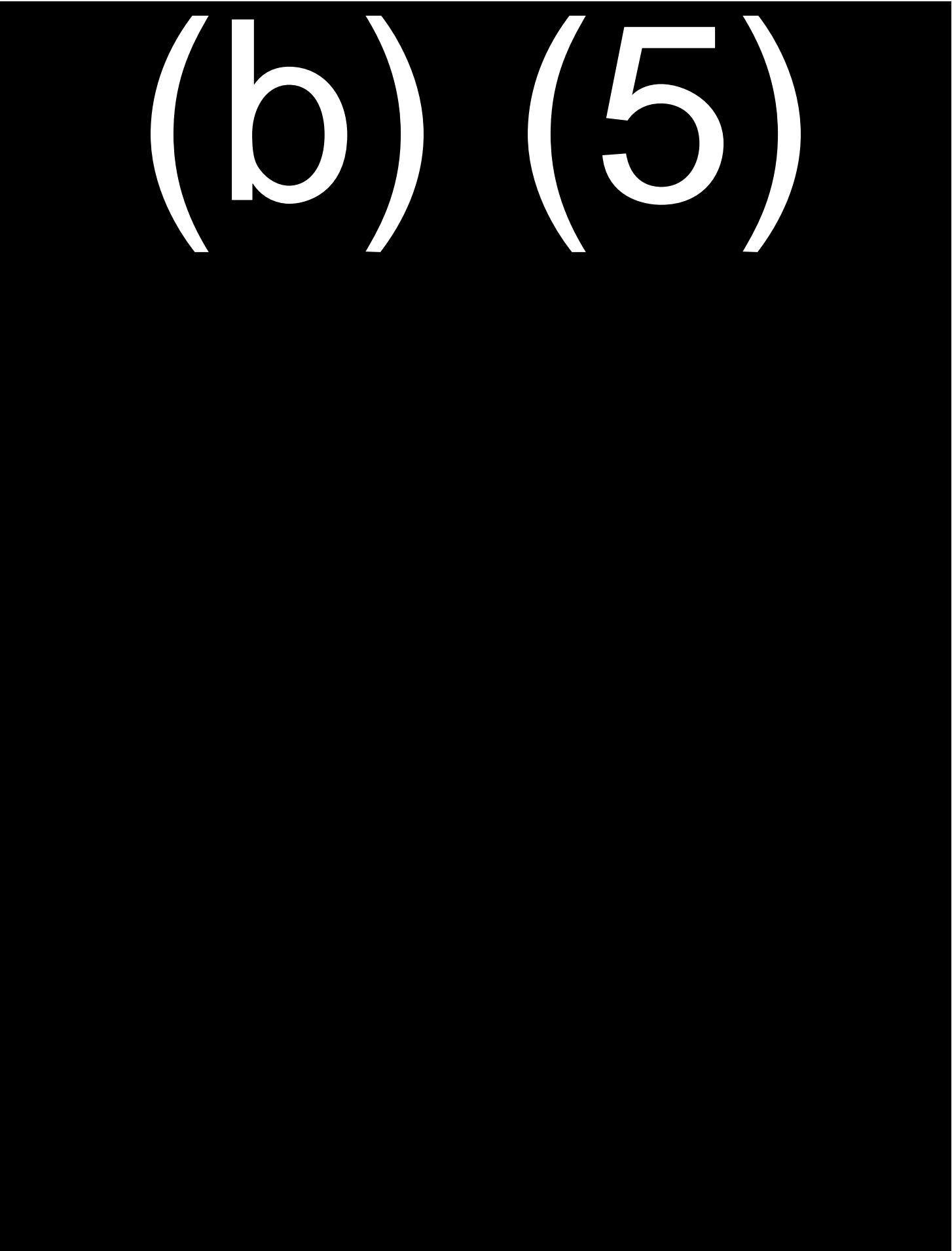
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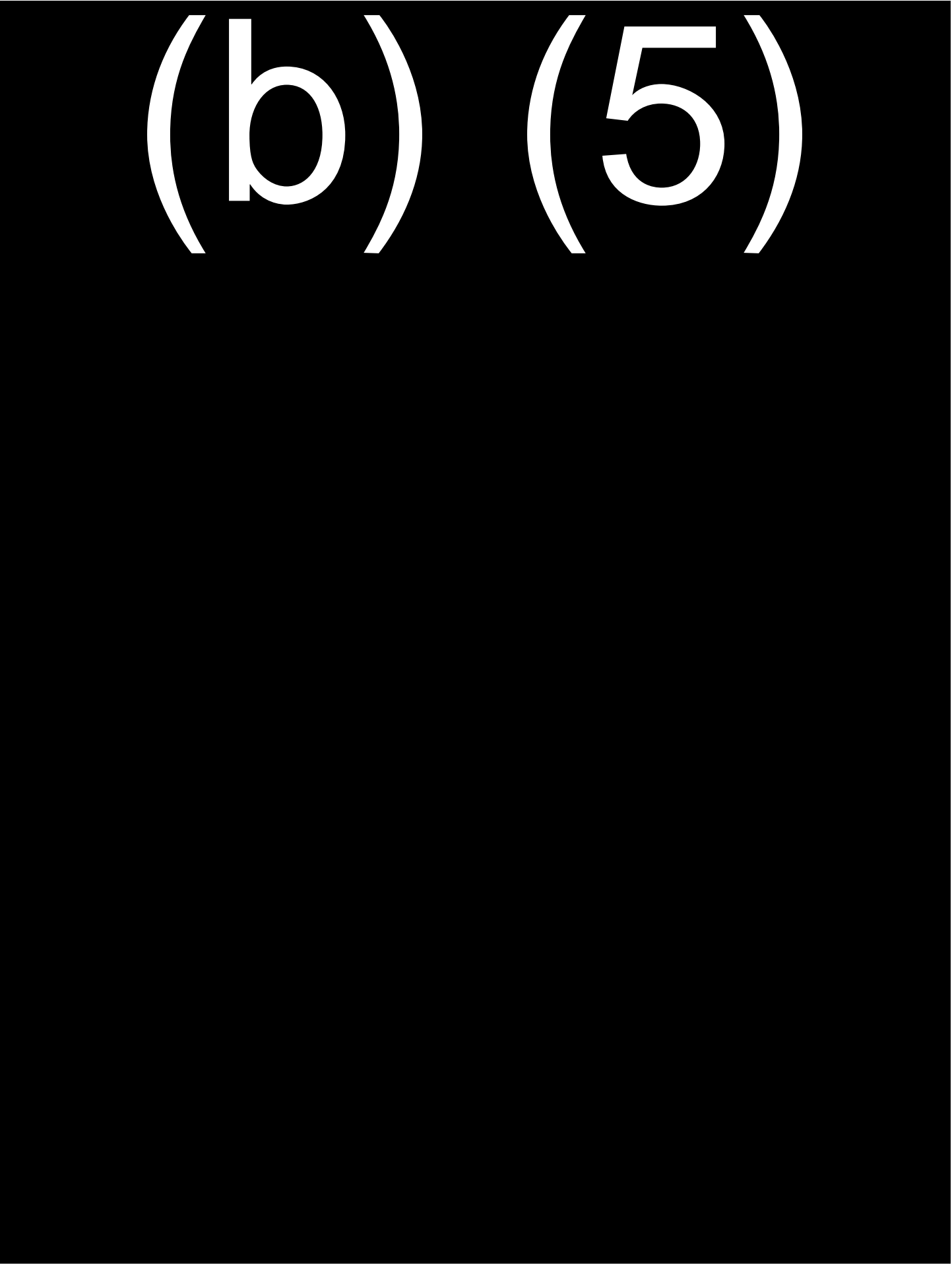
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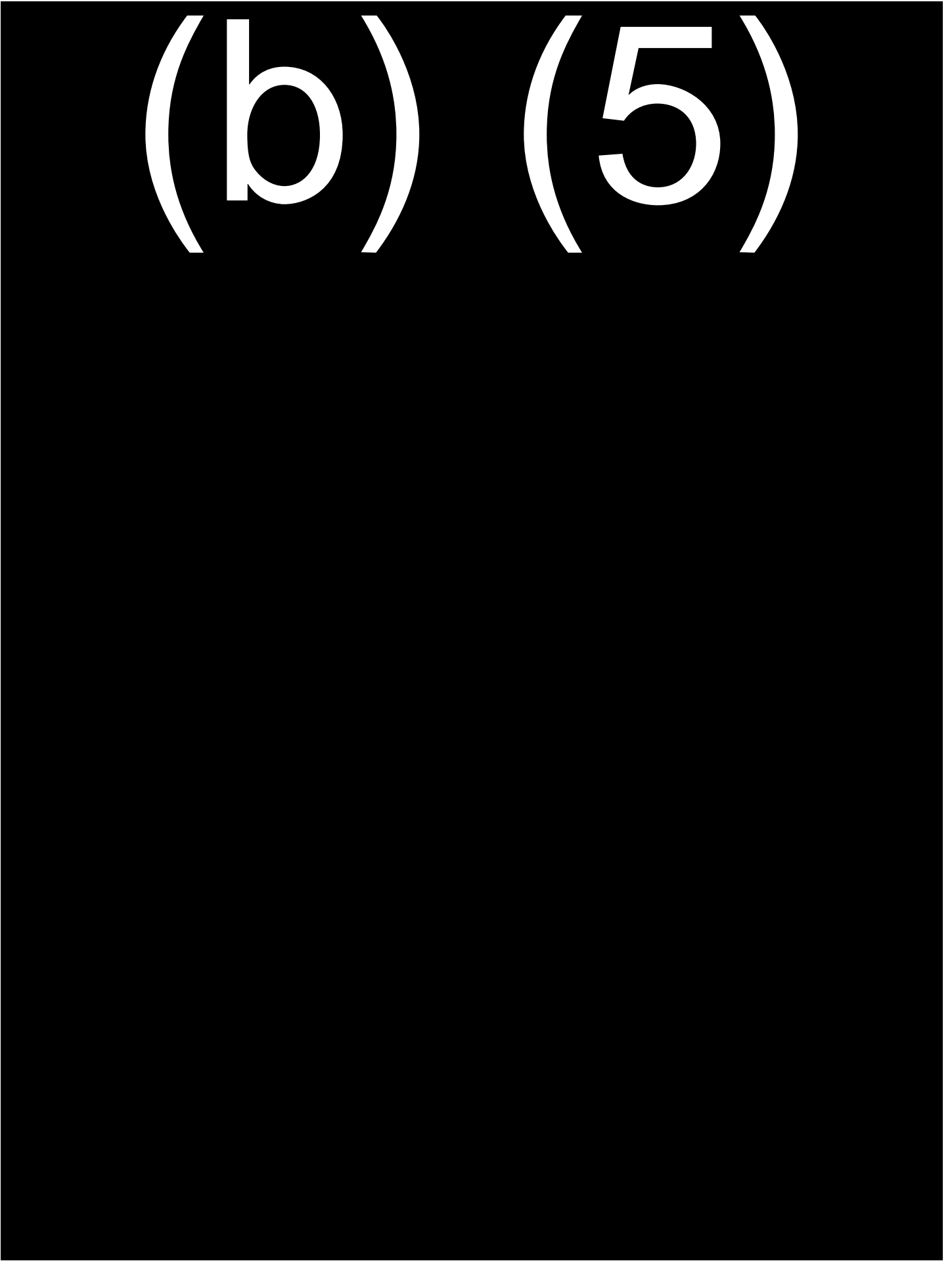
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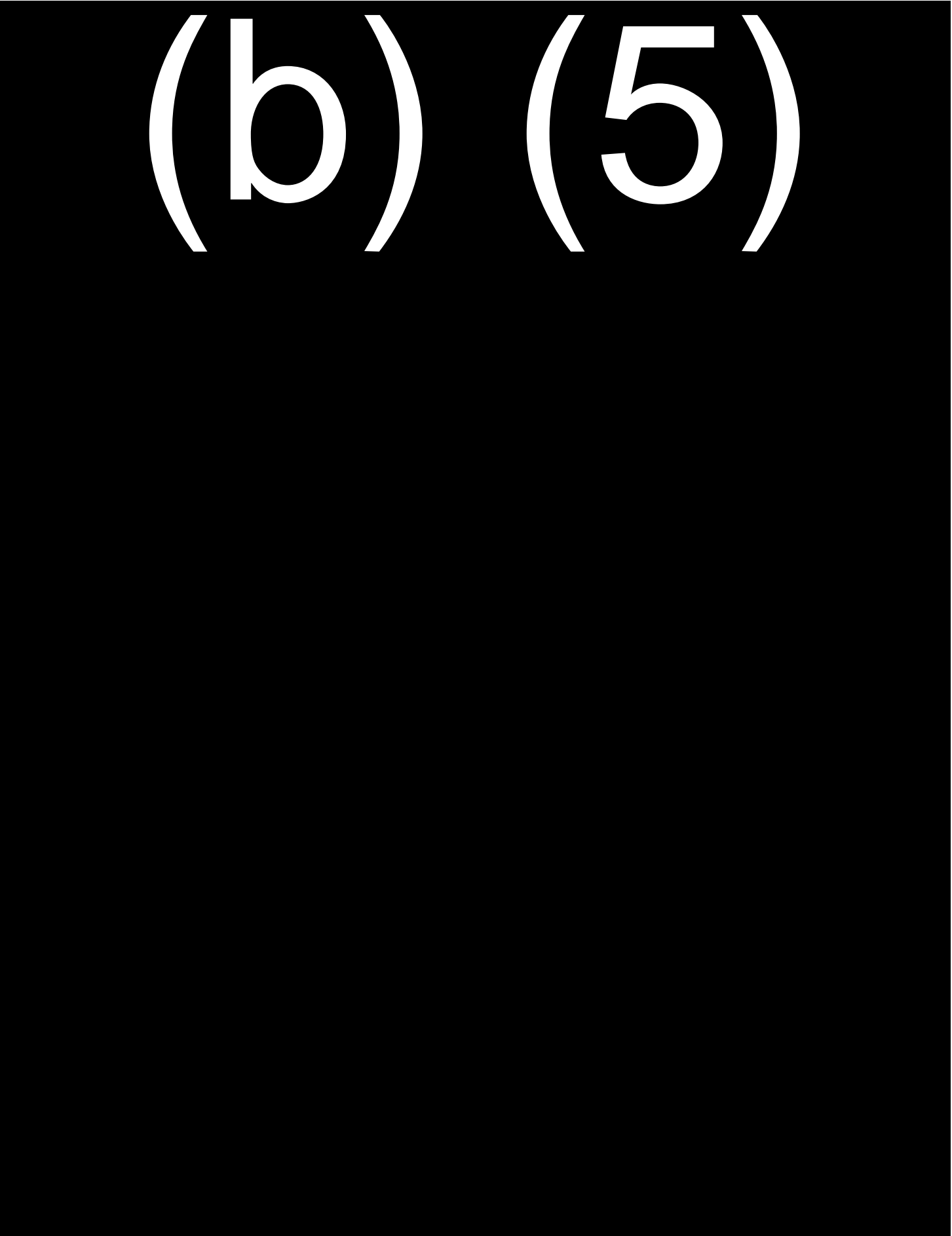
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(b) (5)



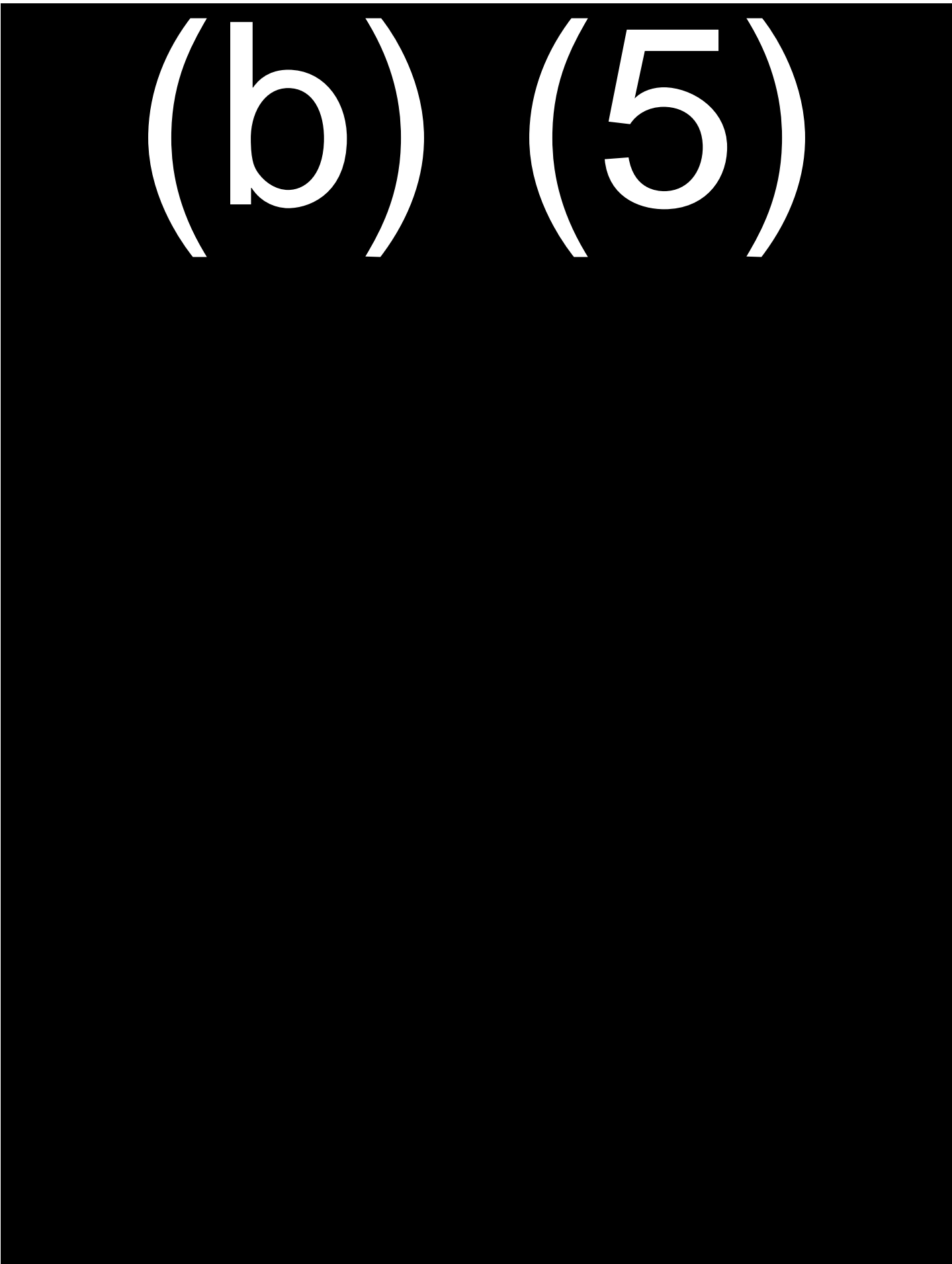
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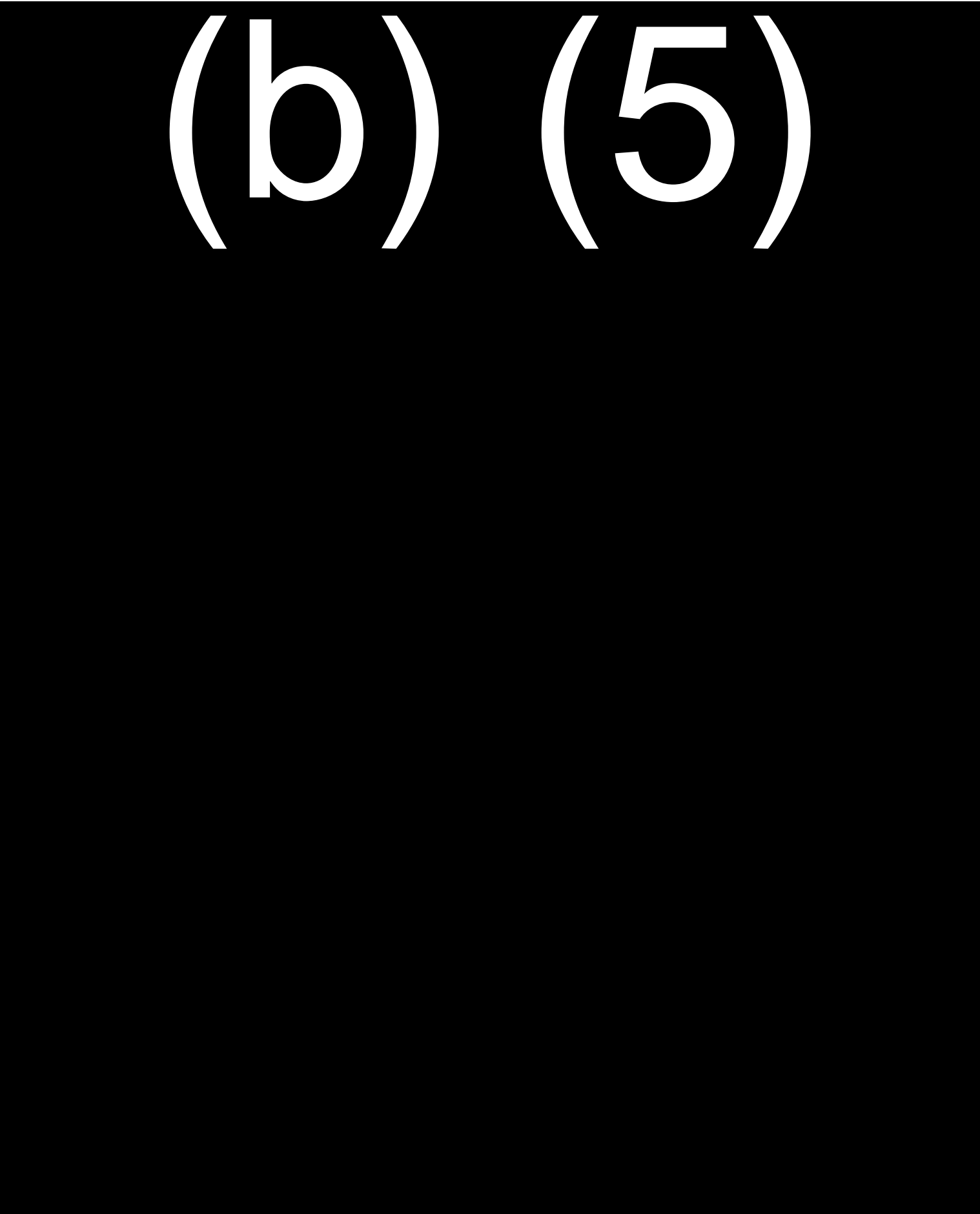


(b) (5)

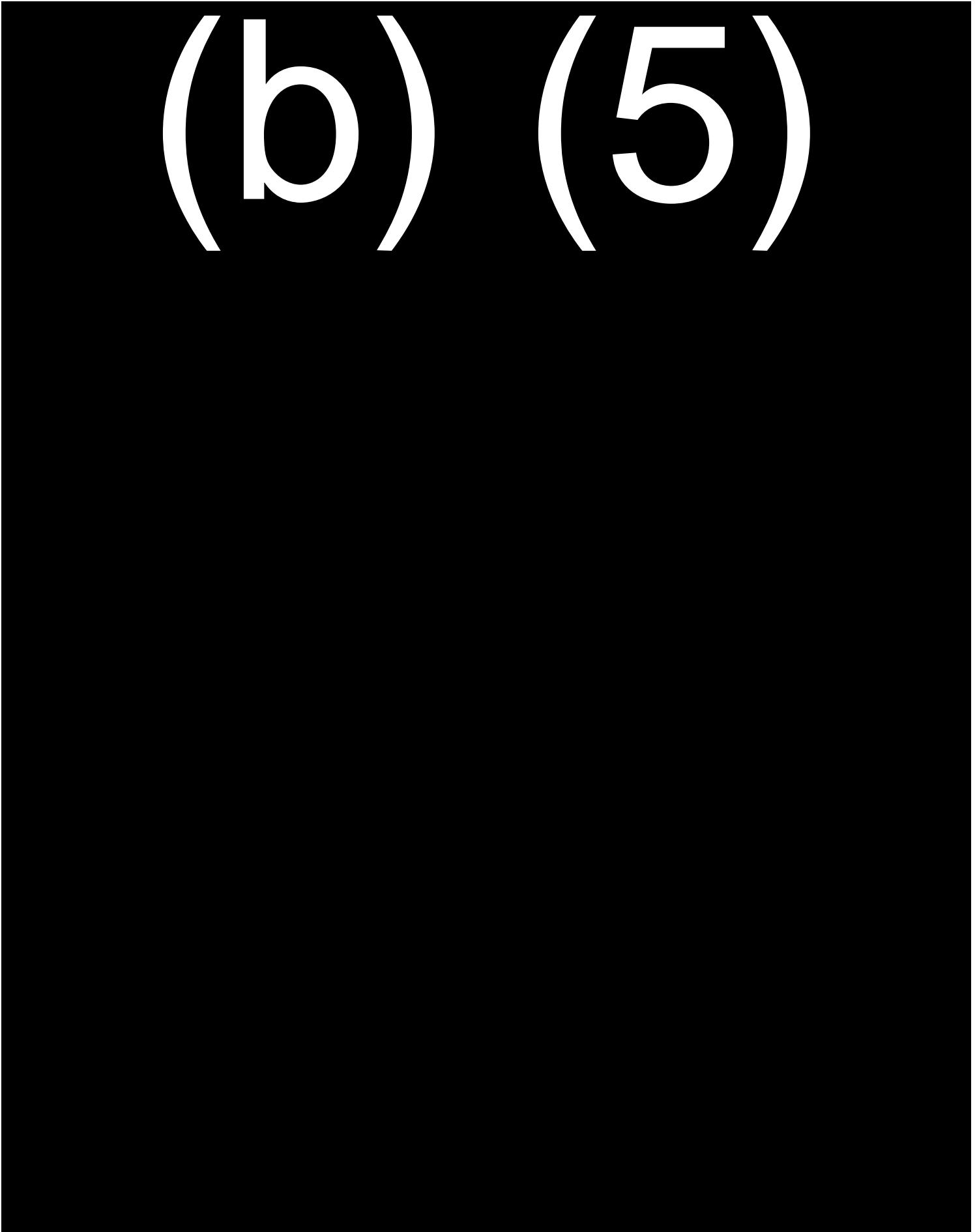
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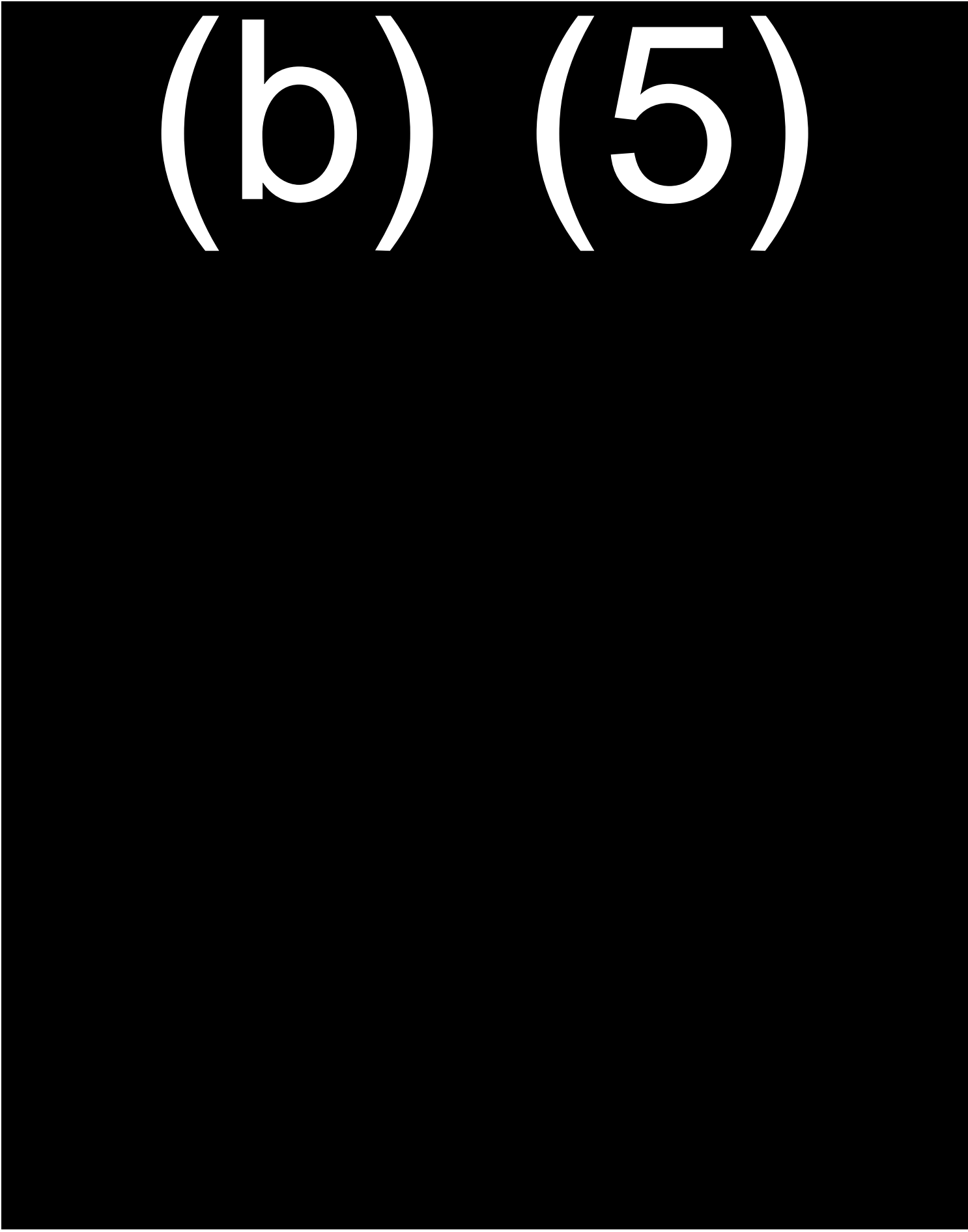
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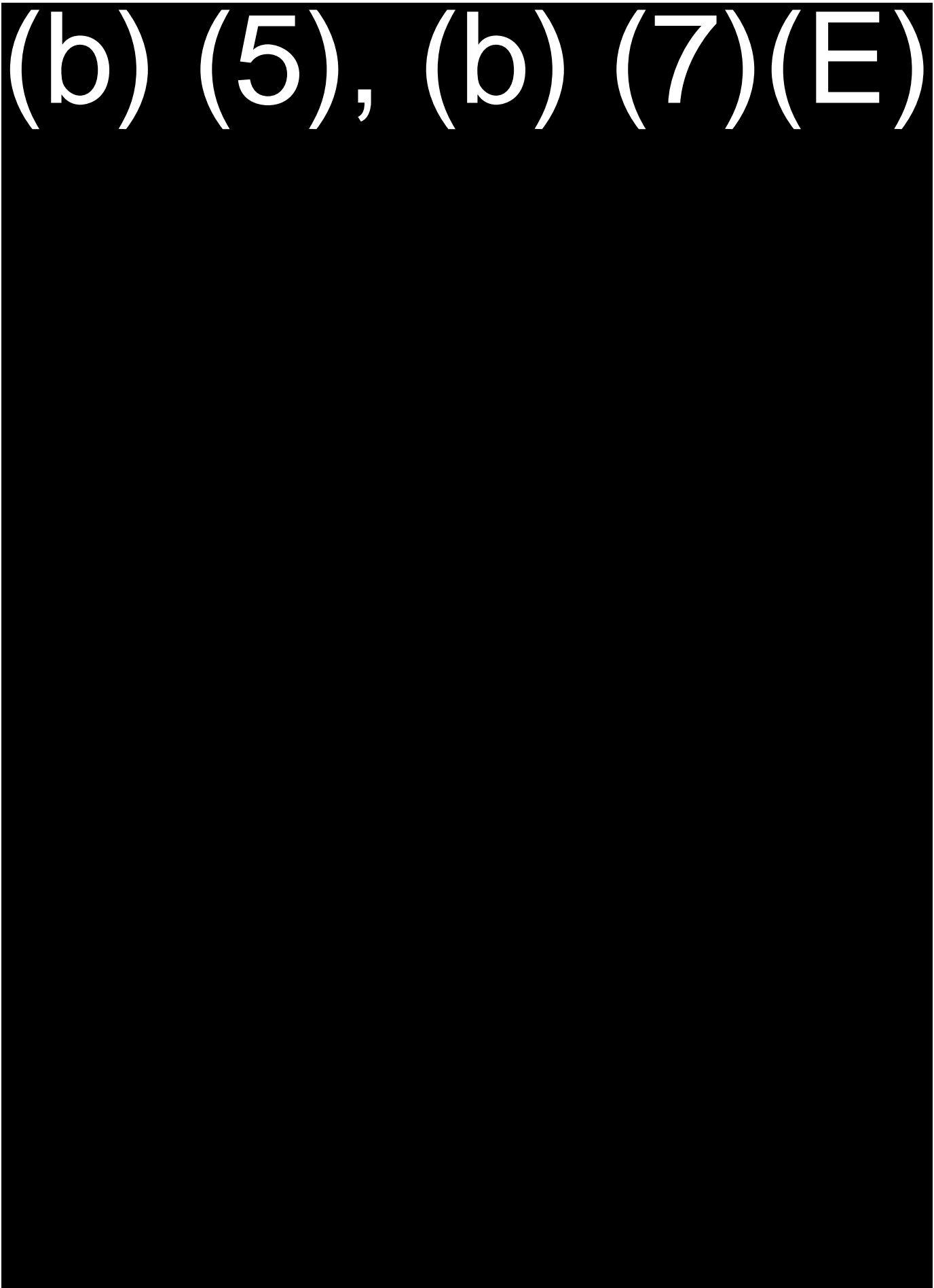
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(b) (5)

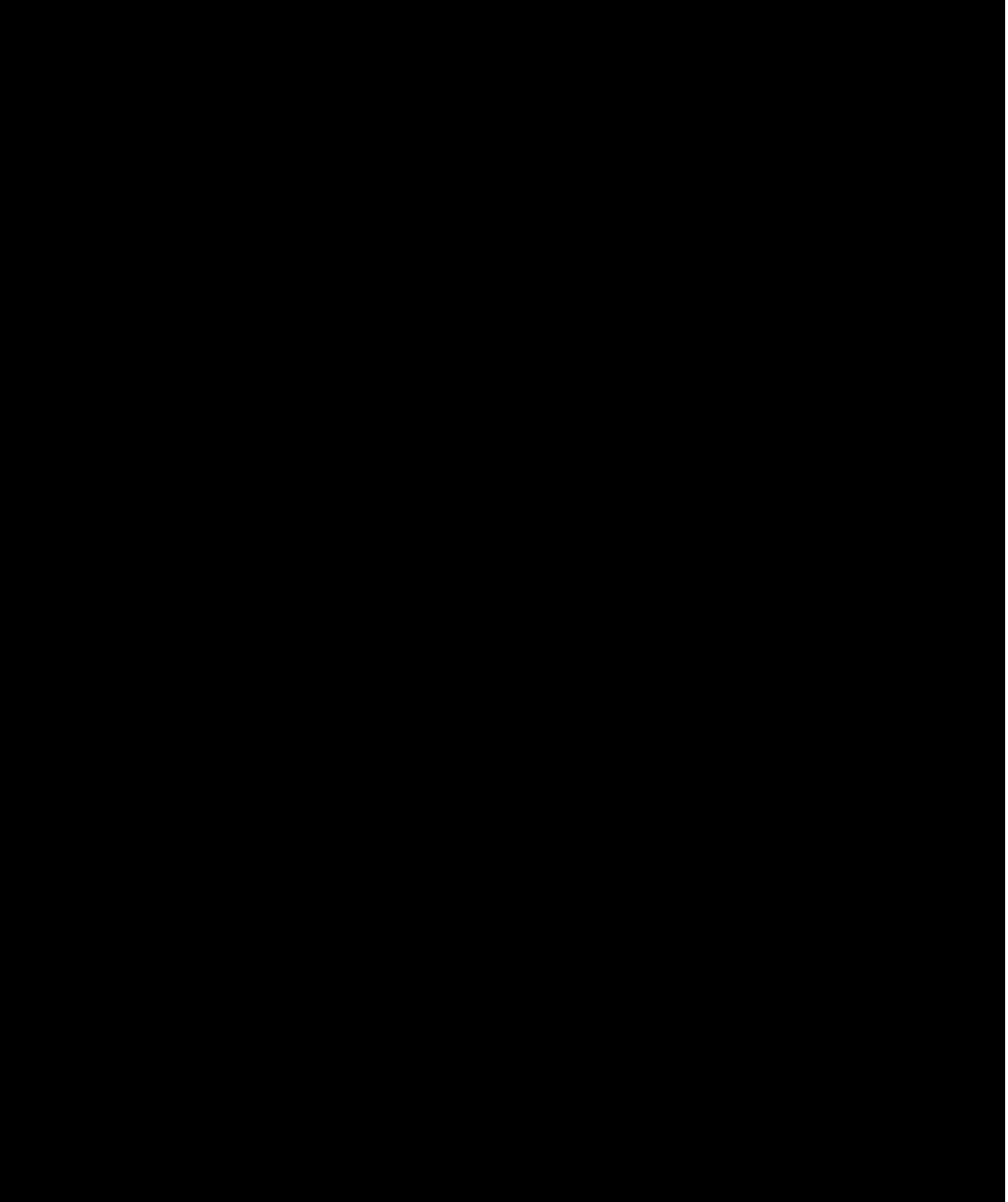
(b) (5), (b) (7)(E)



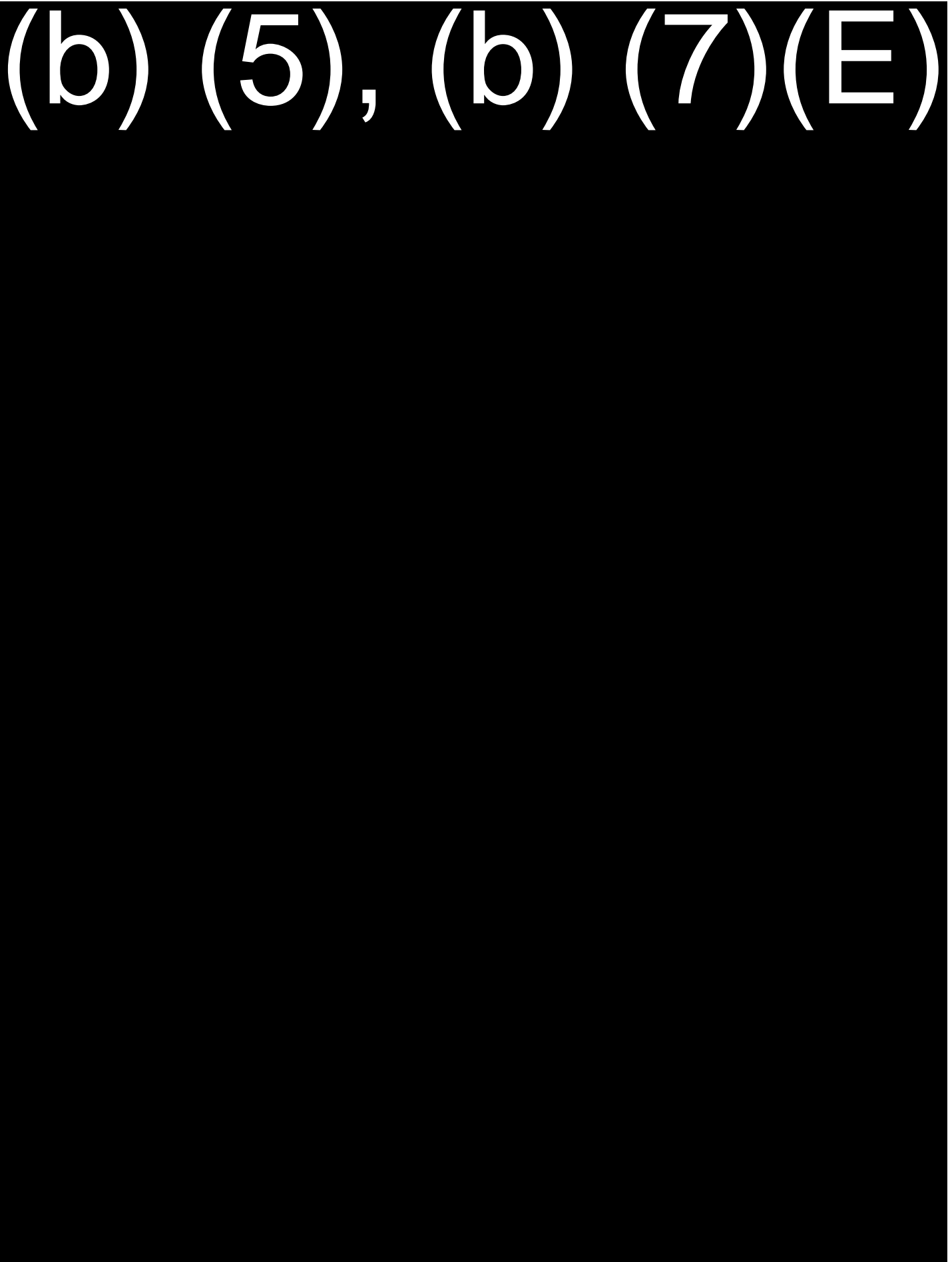
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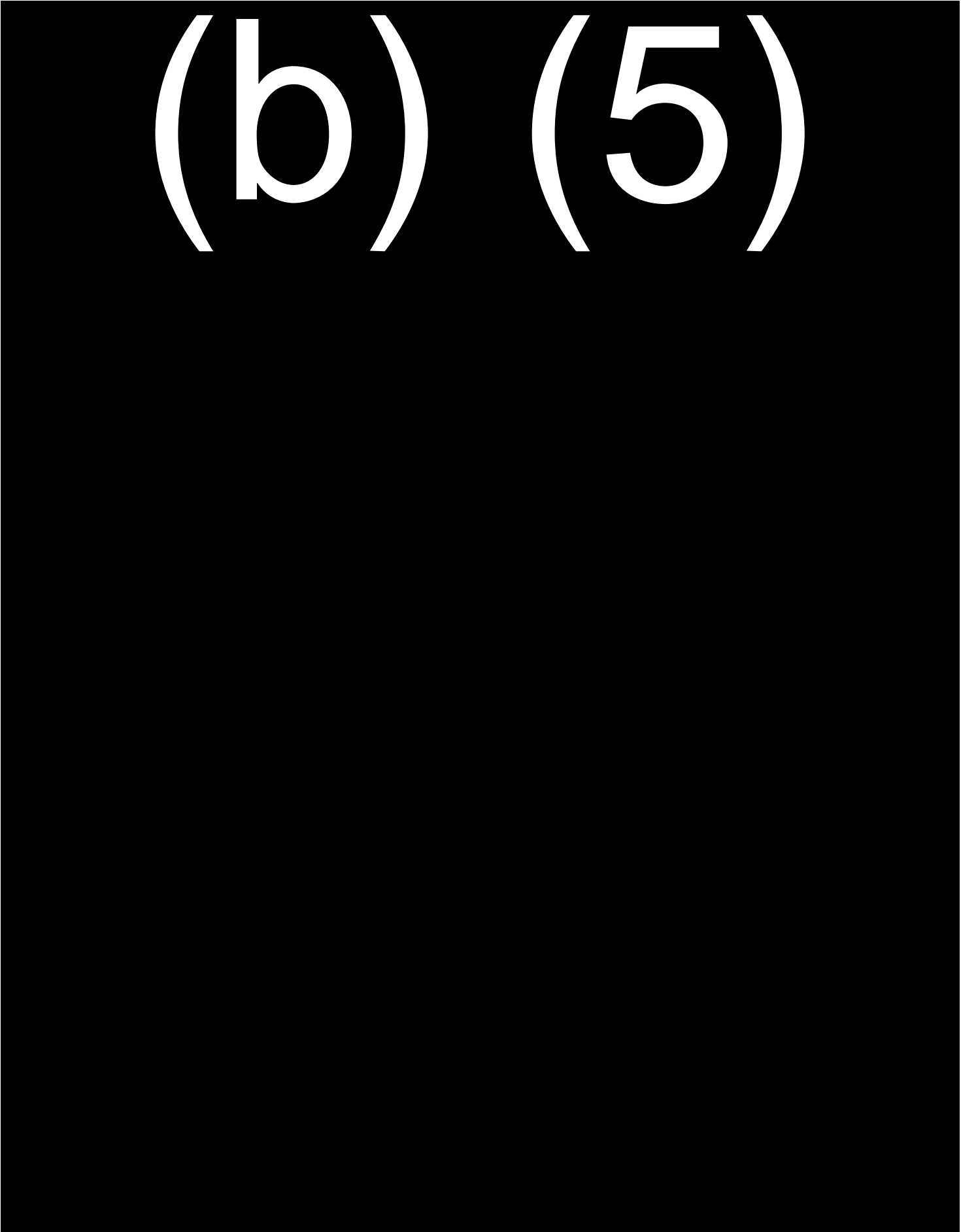
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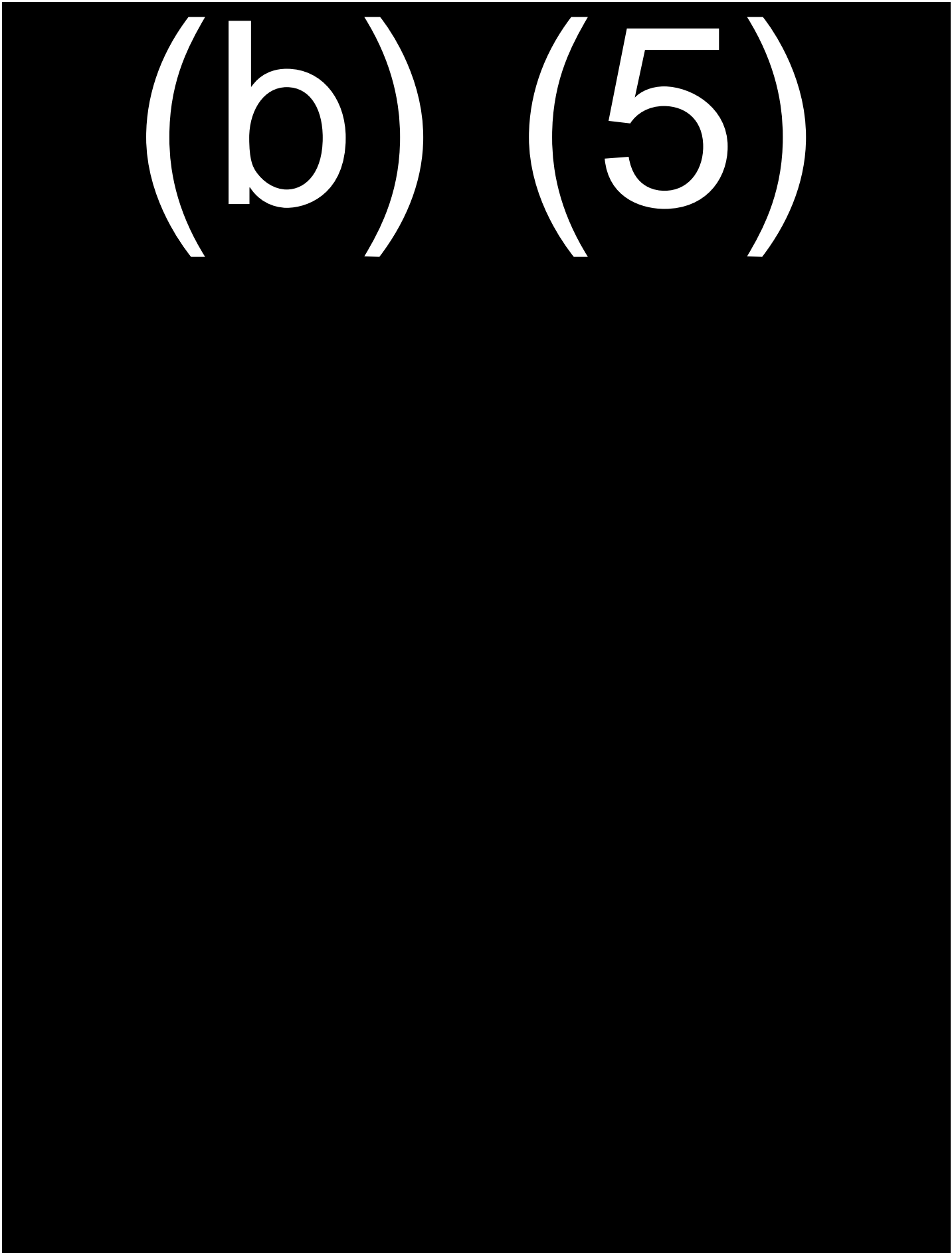
(b) (5), (b) (7)(E)



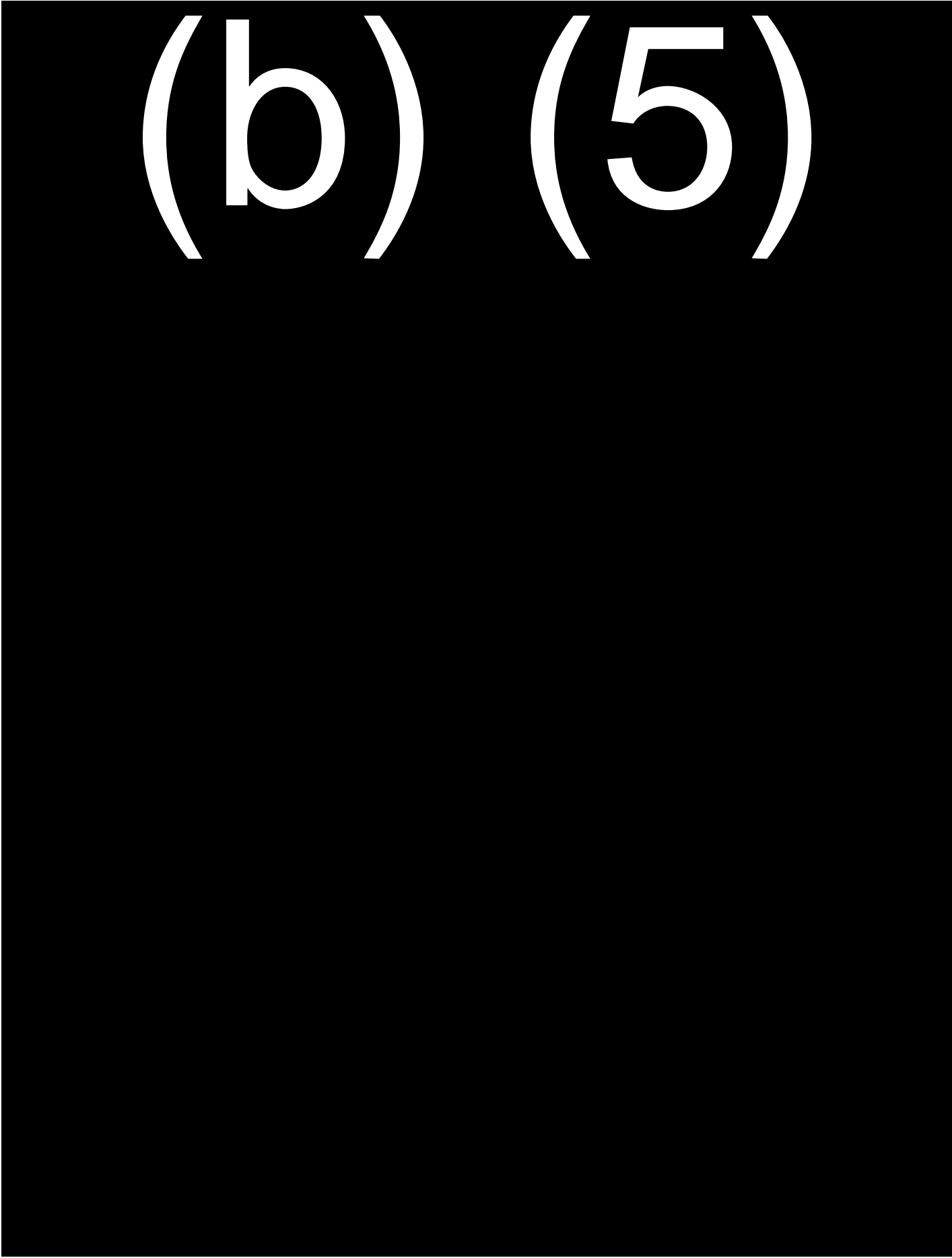
(b) (5)



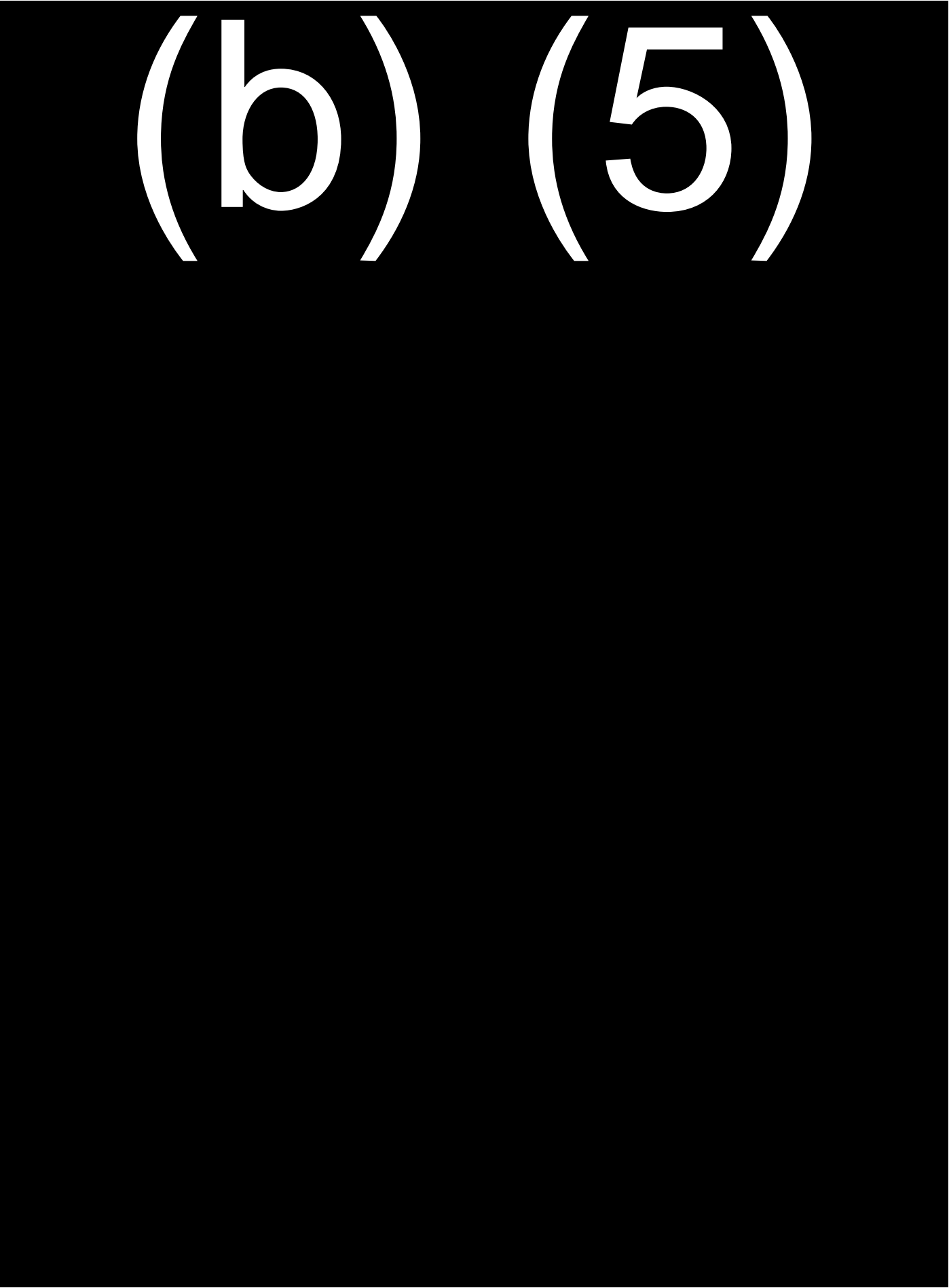
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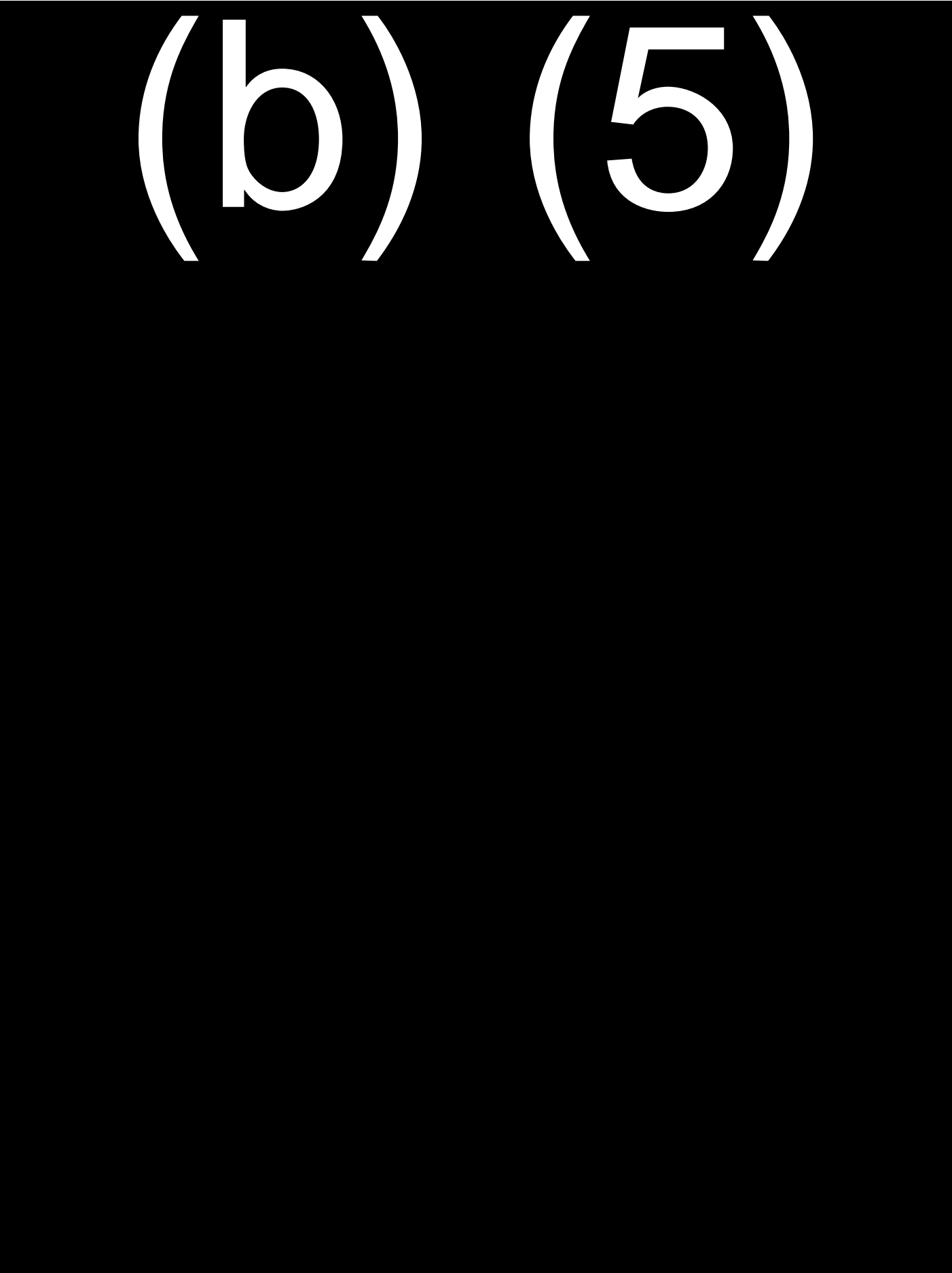
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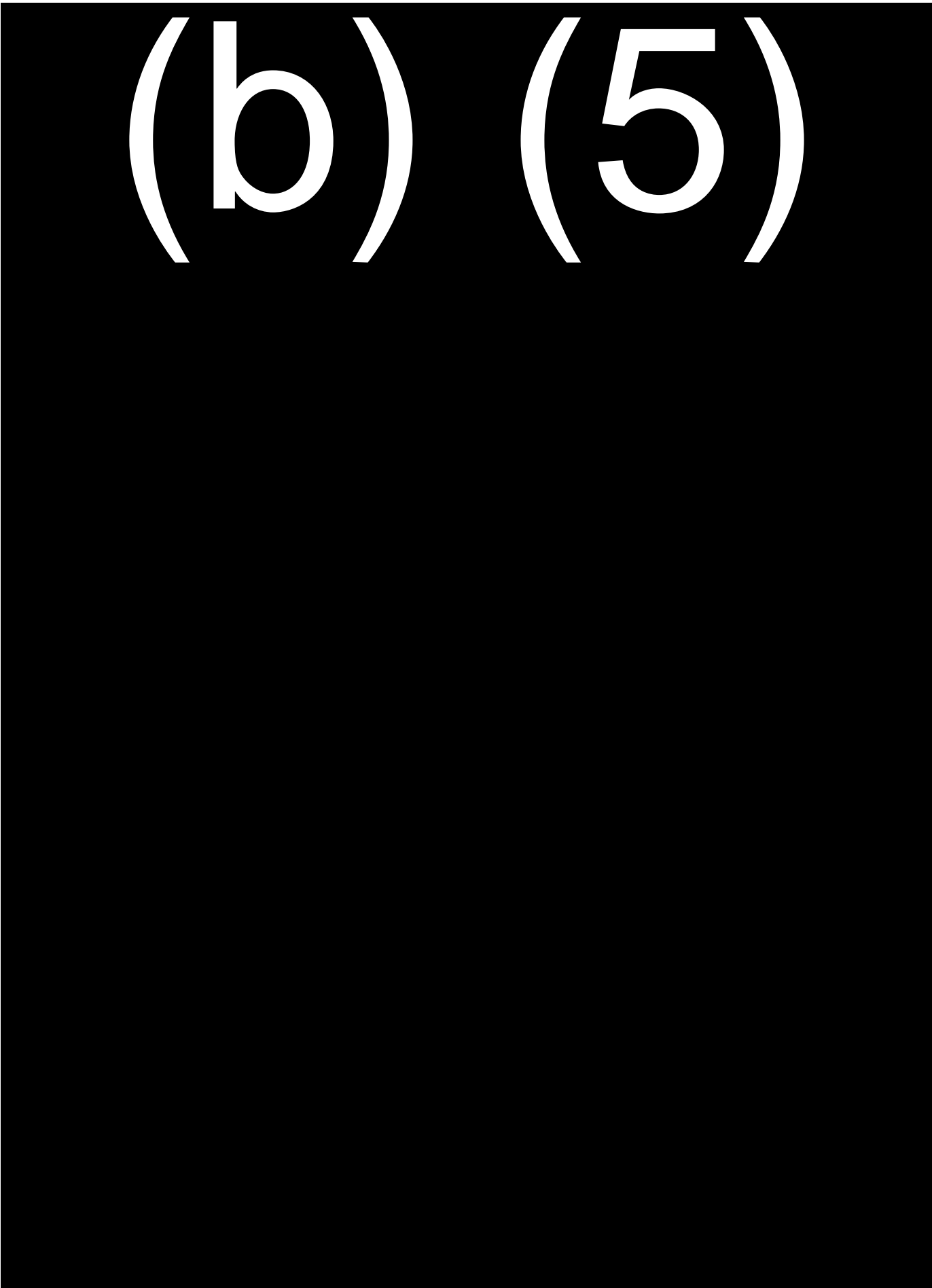
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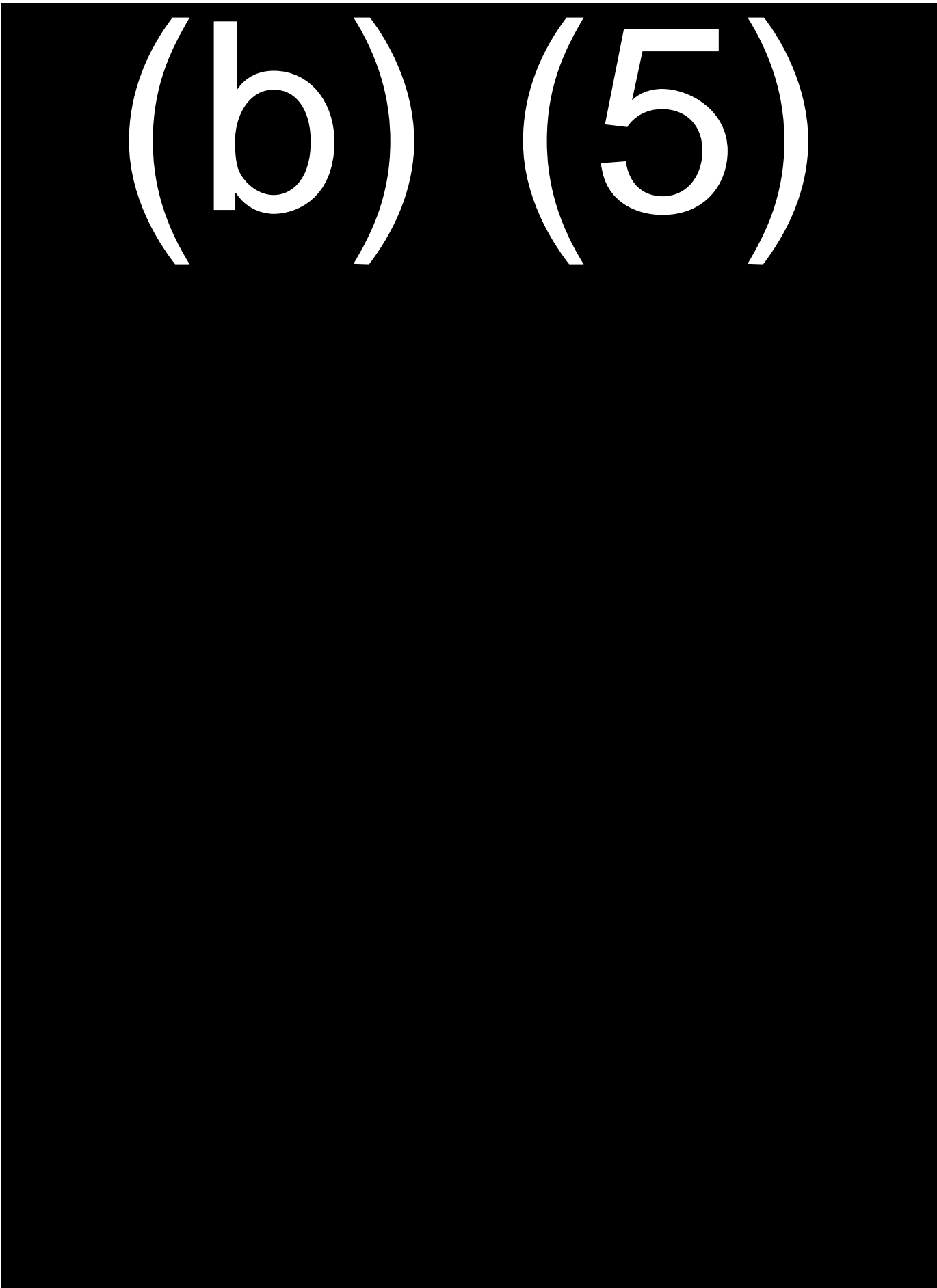
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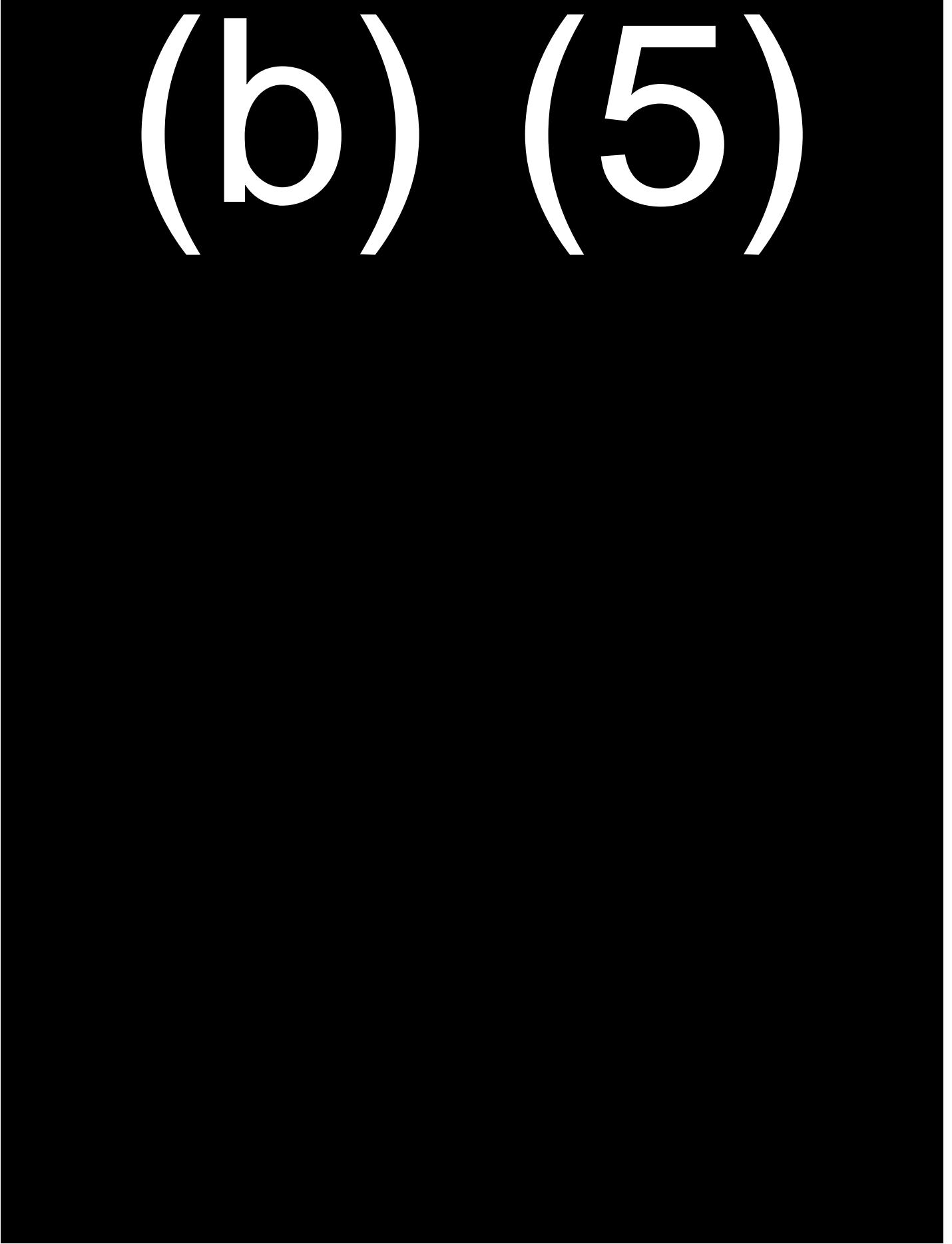


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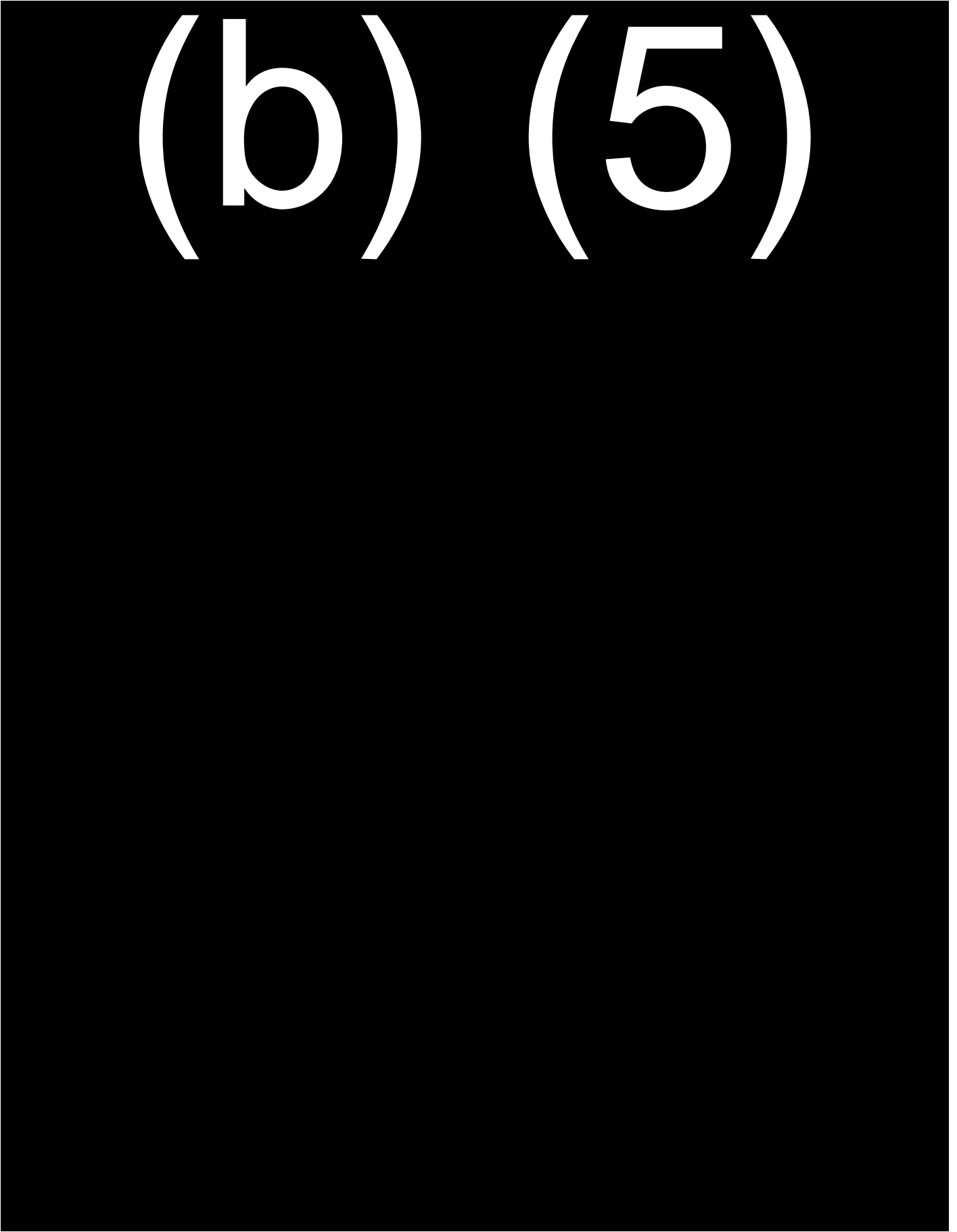
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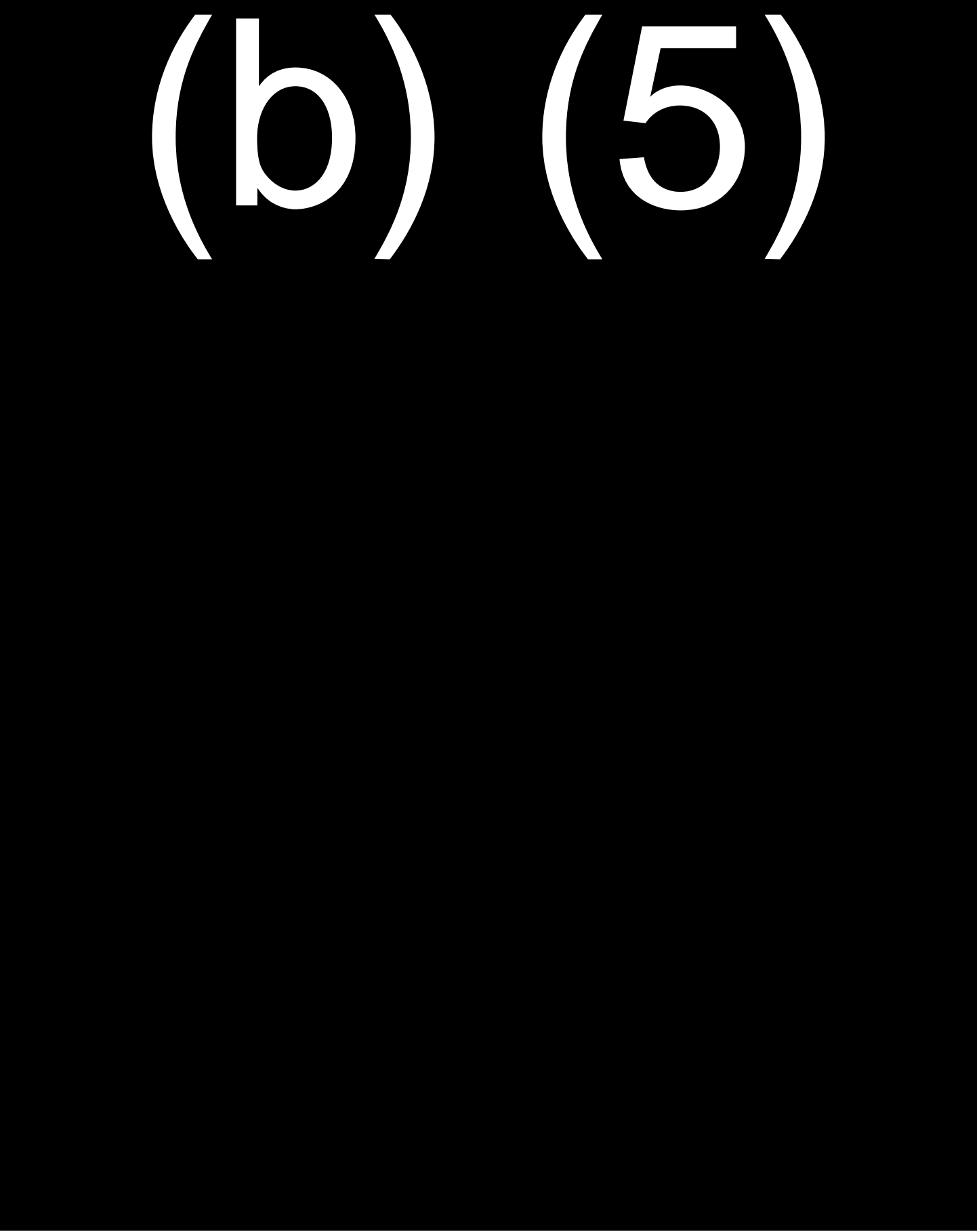
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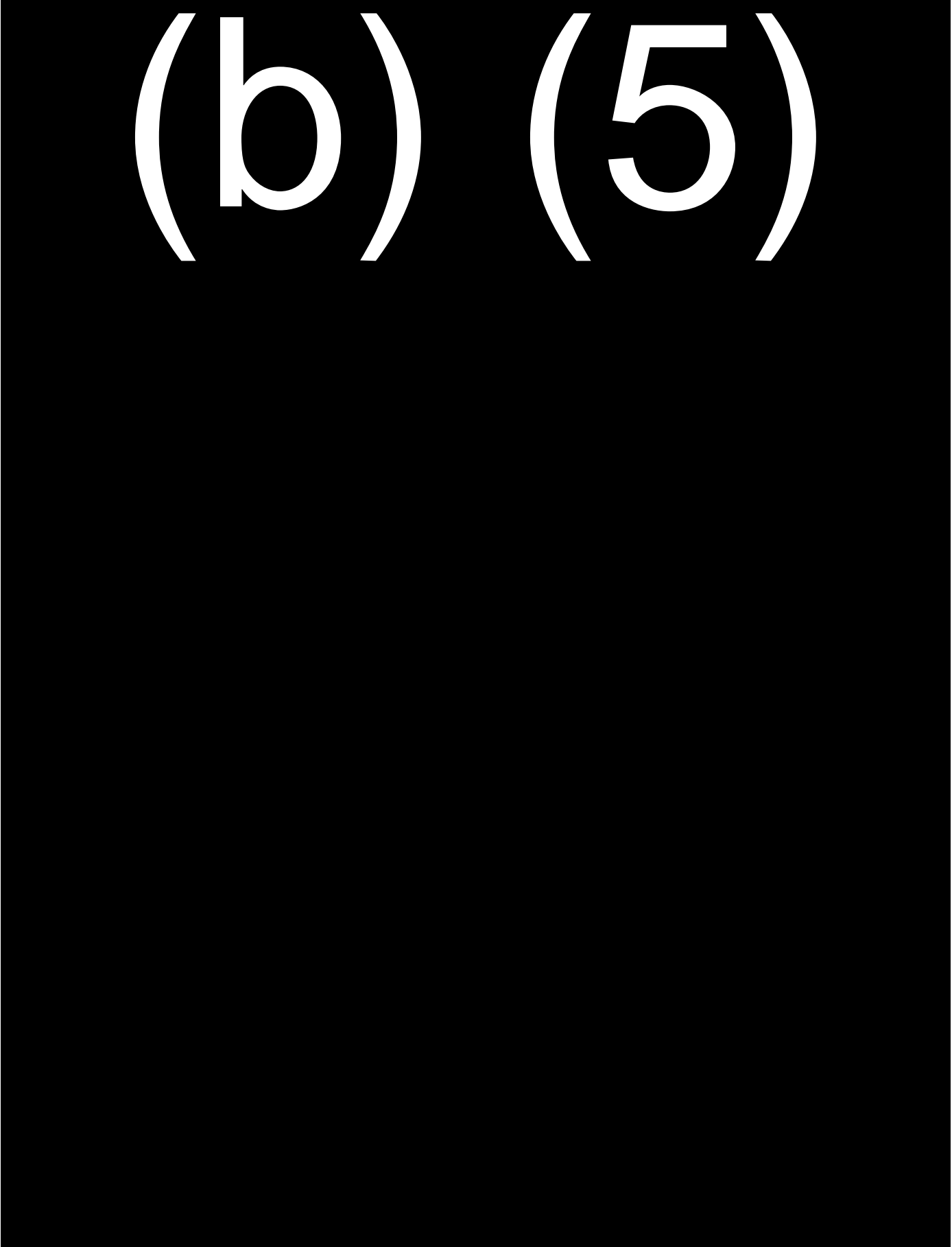
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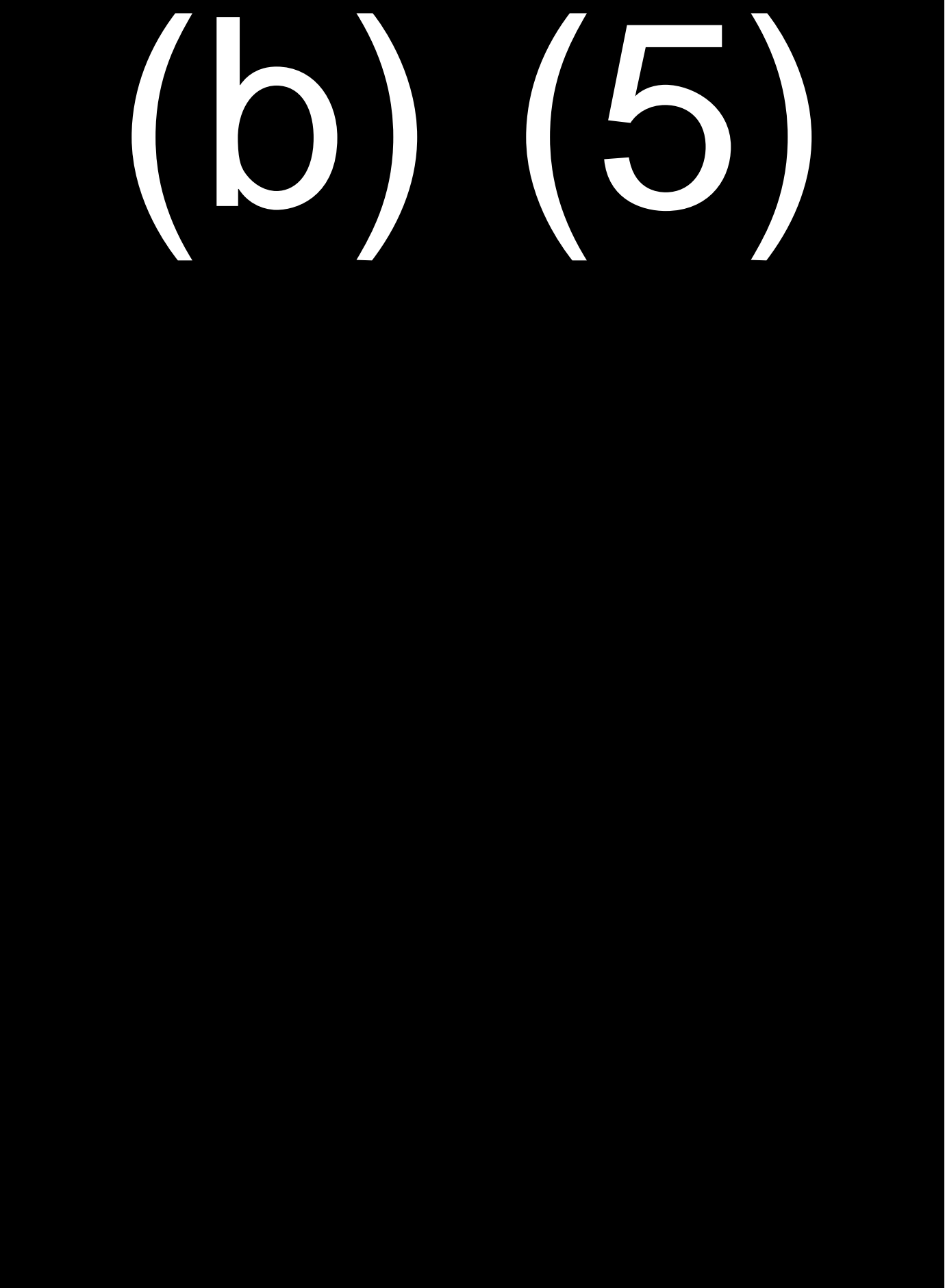
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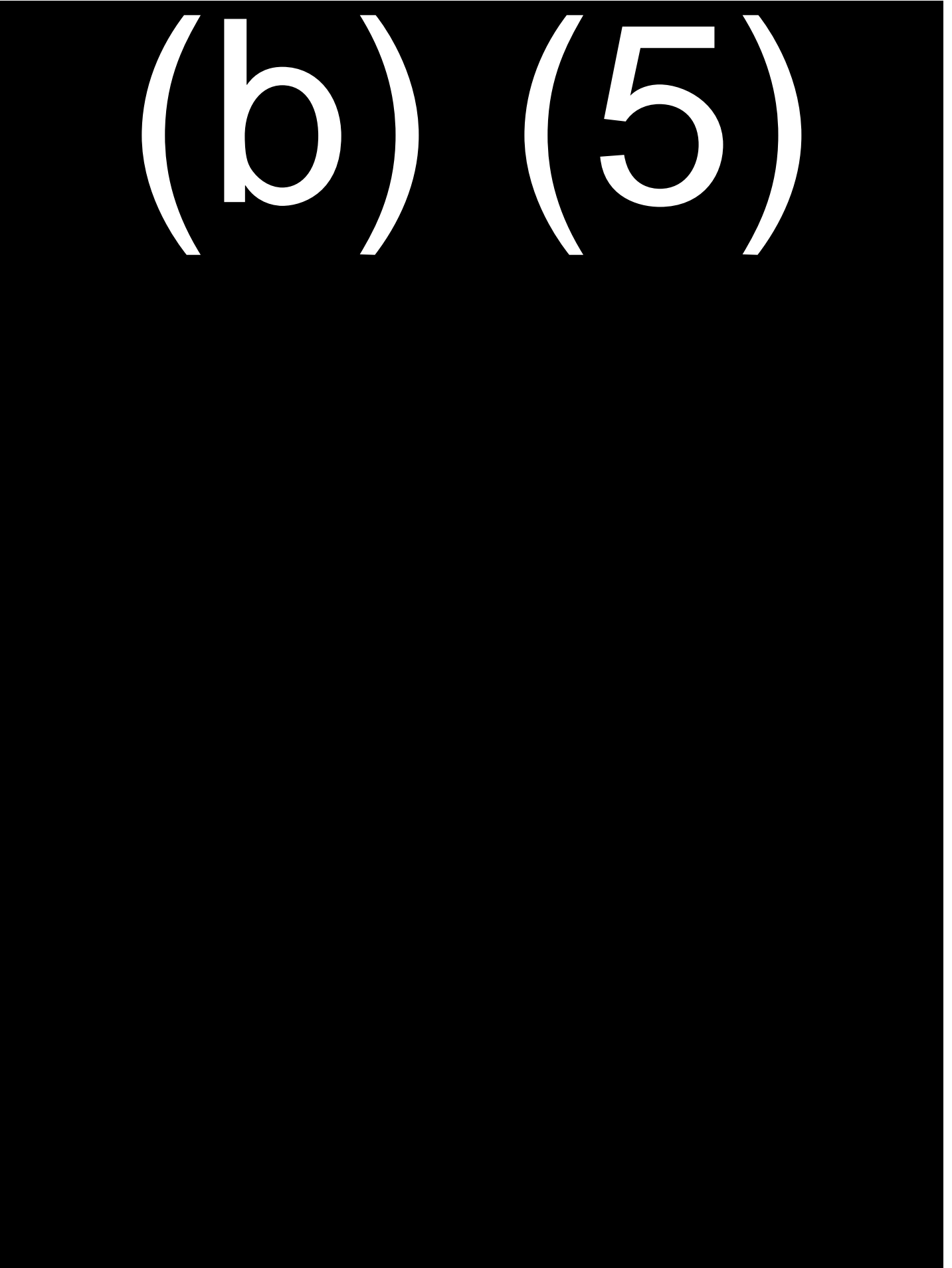
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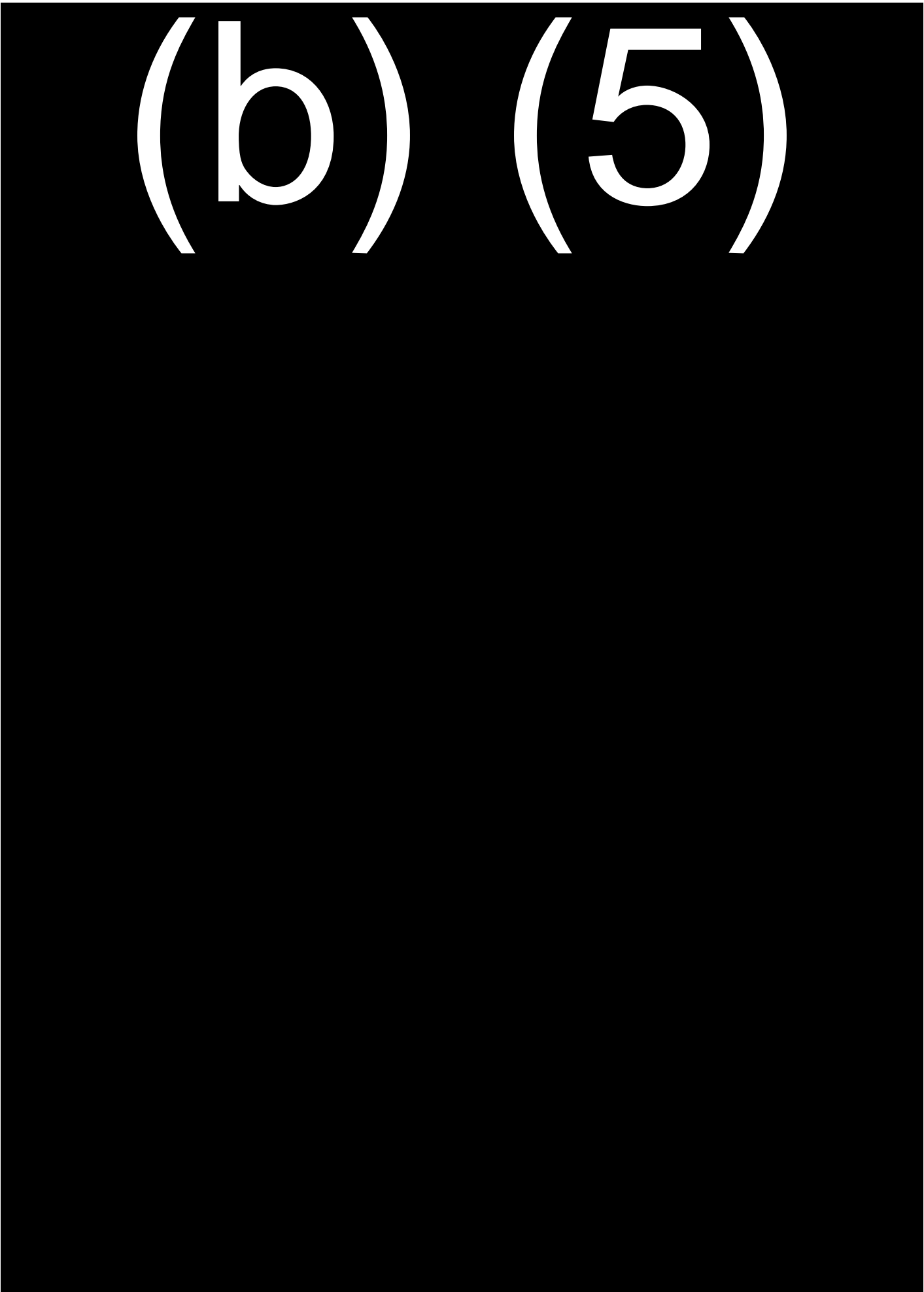
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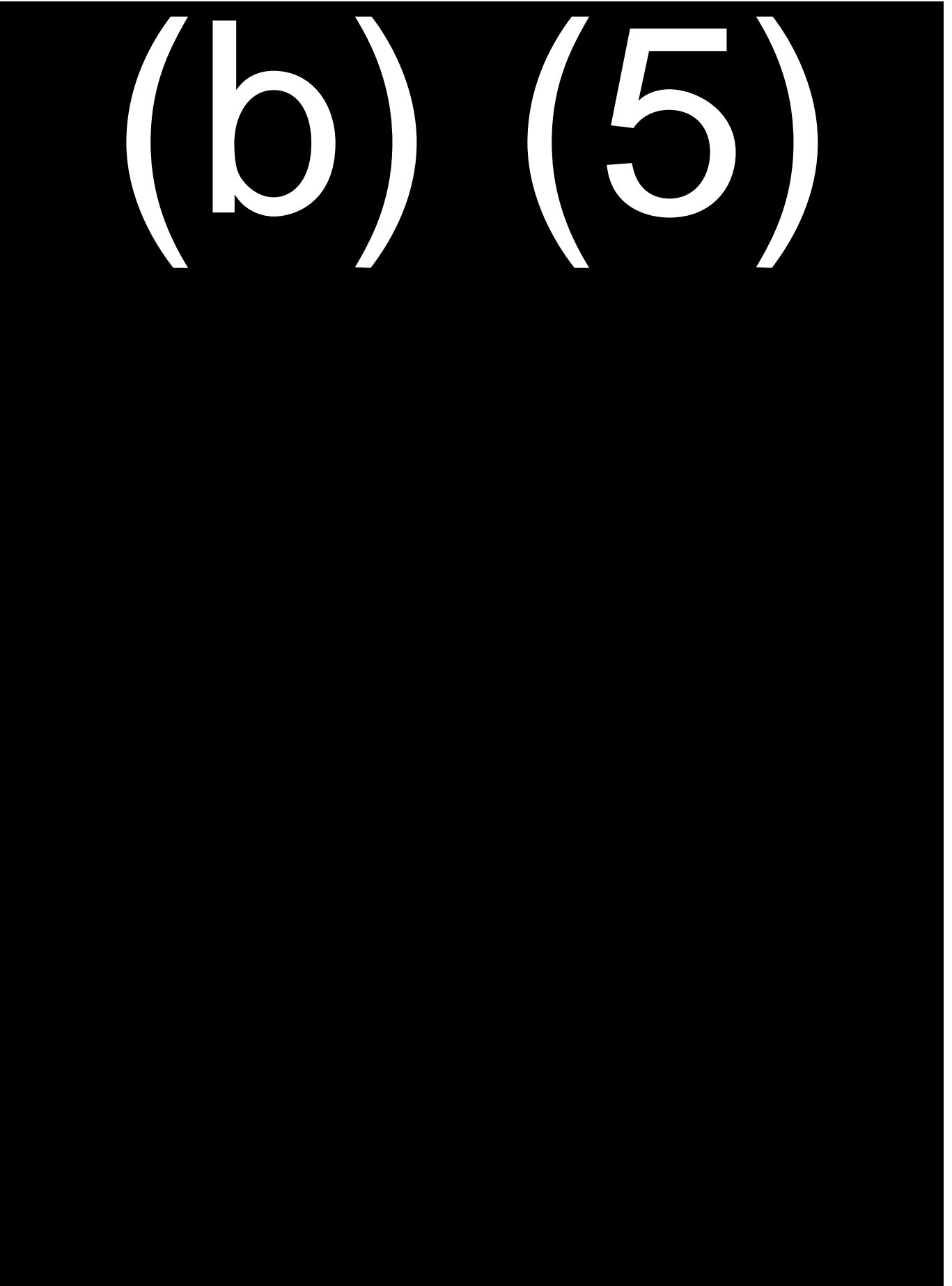


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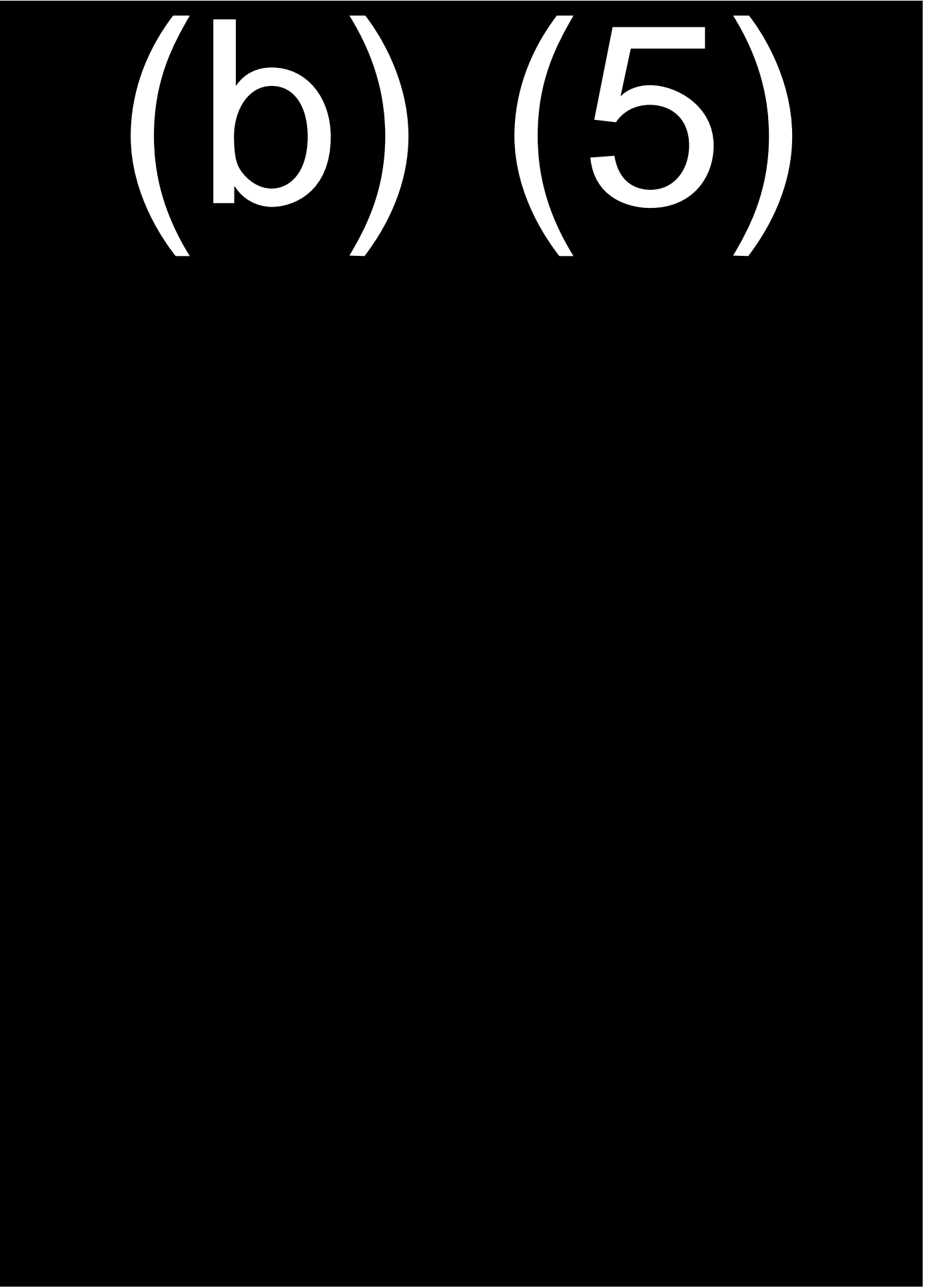
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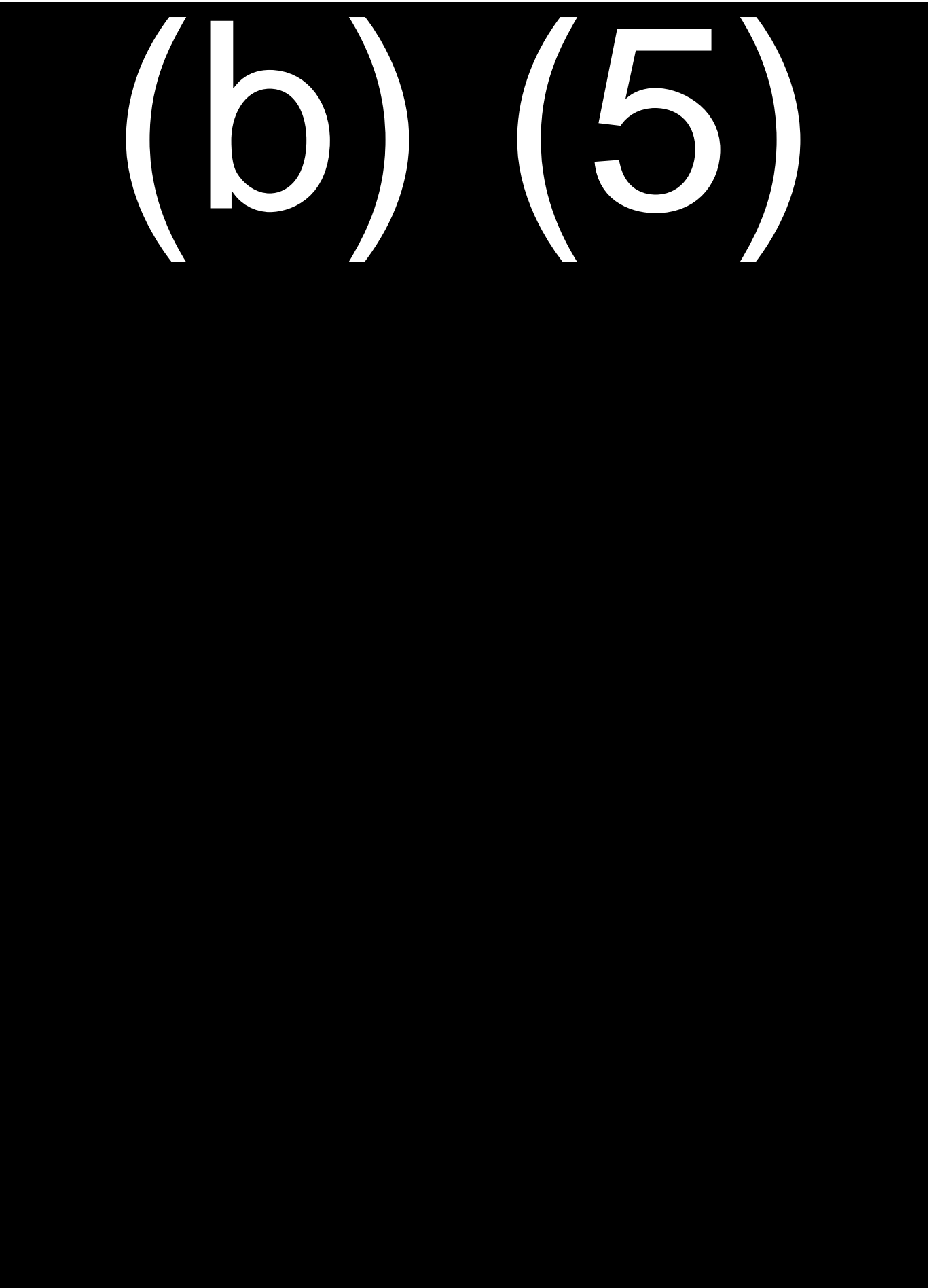
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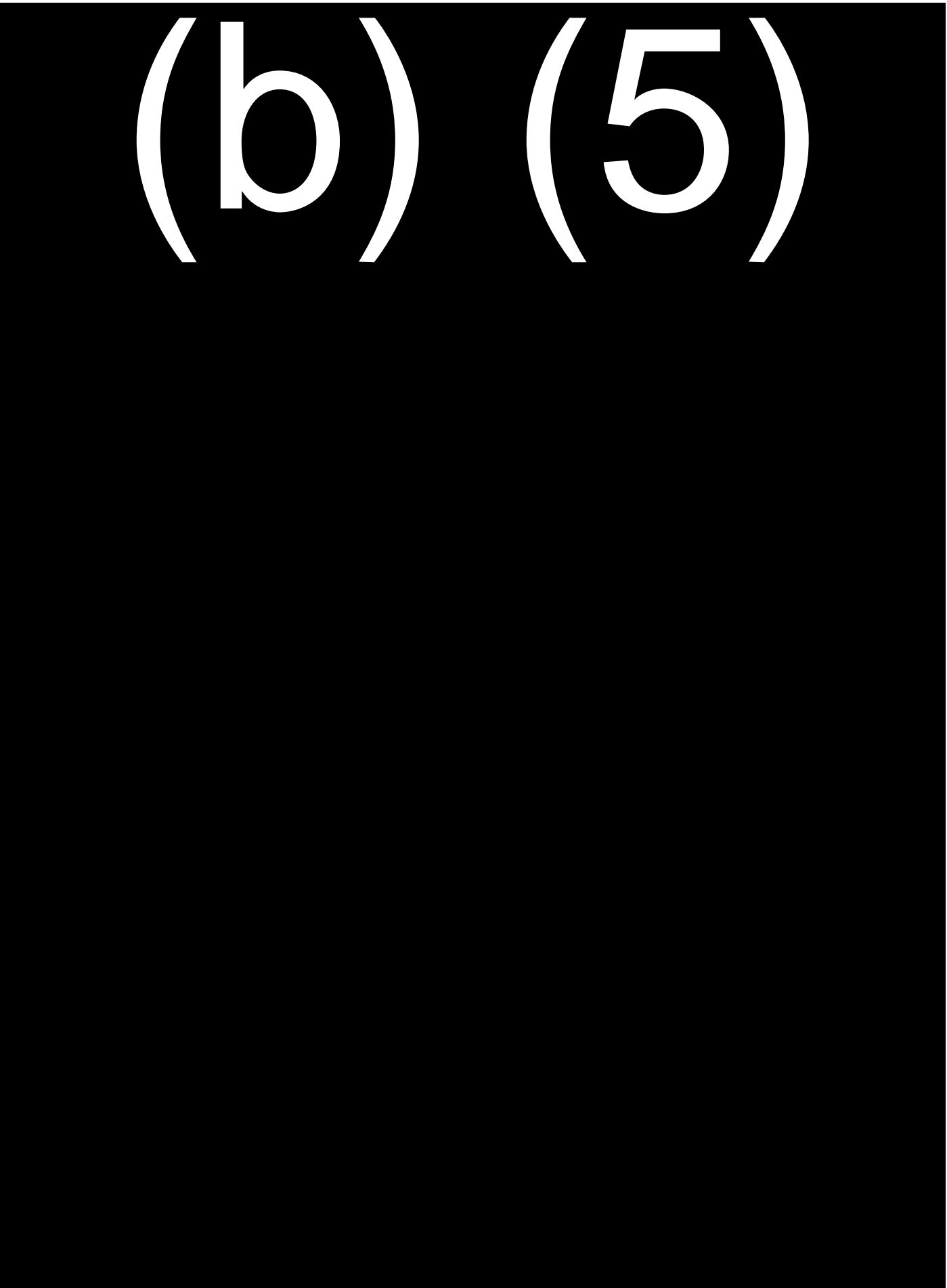
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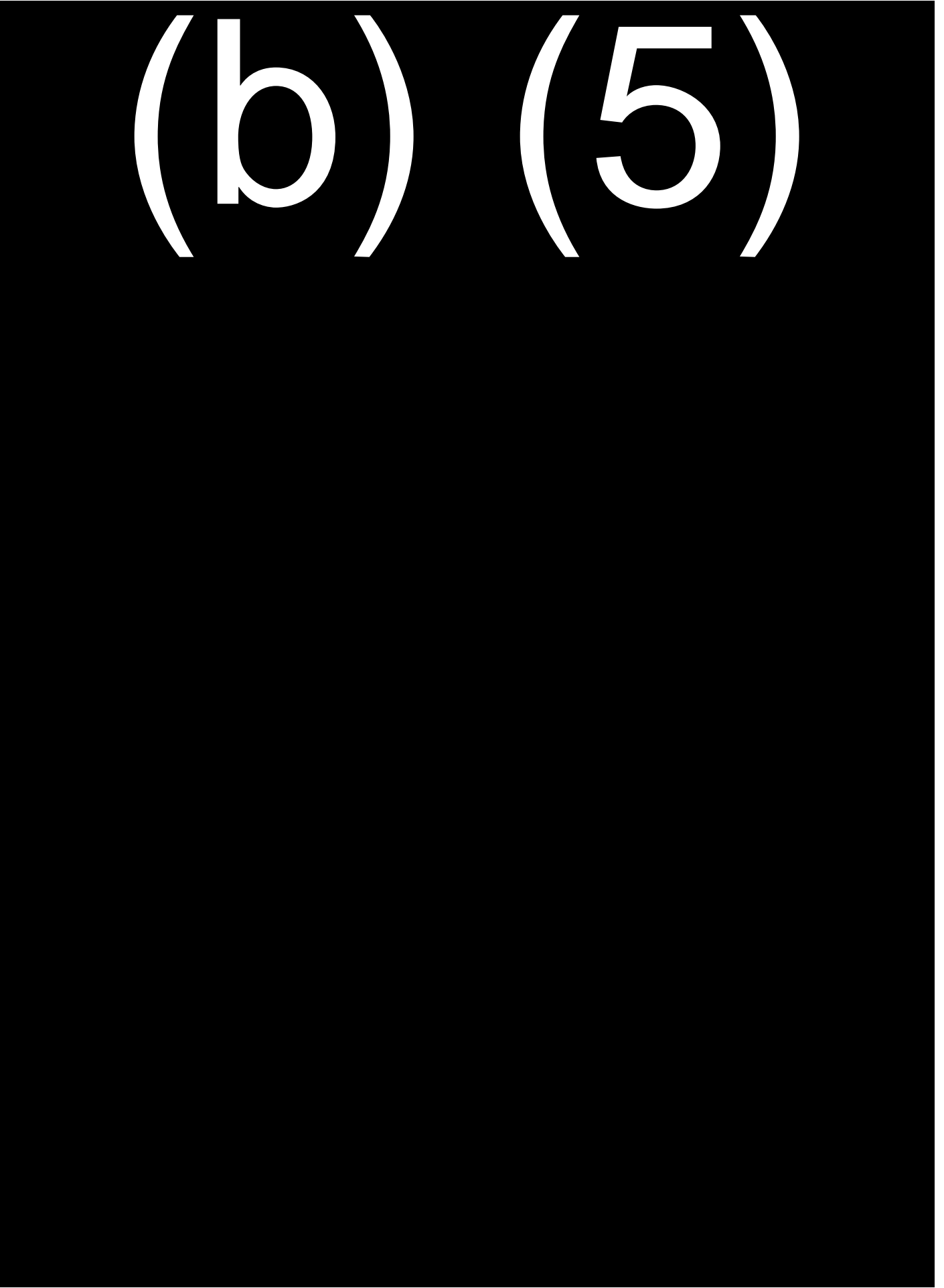


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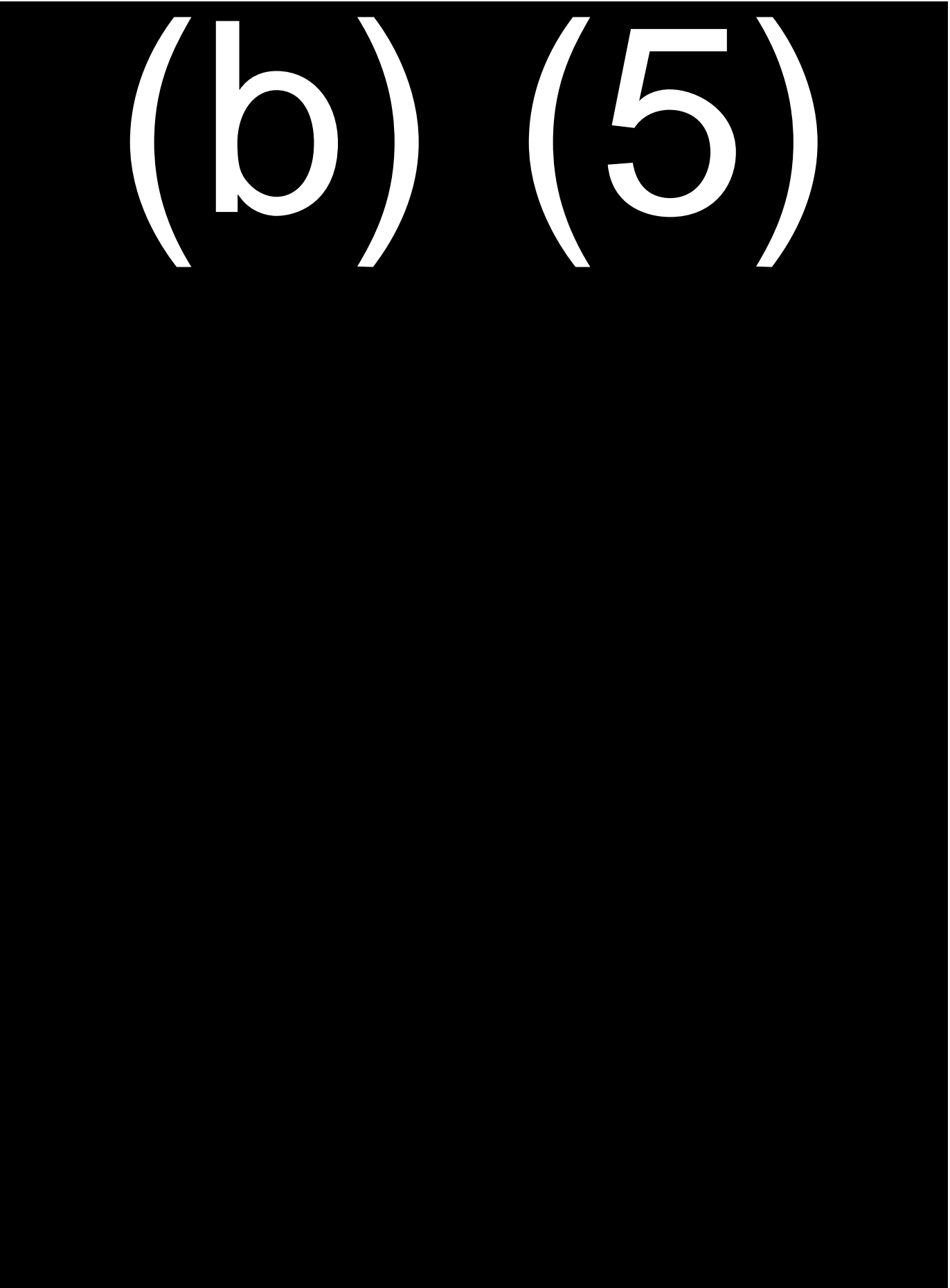


(b) (5)



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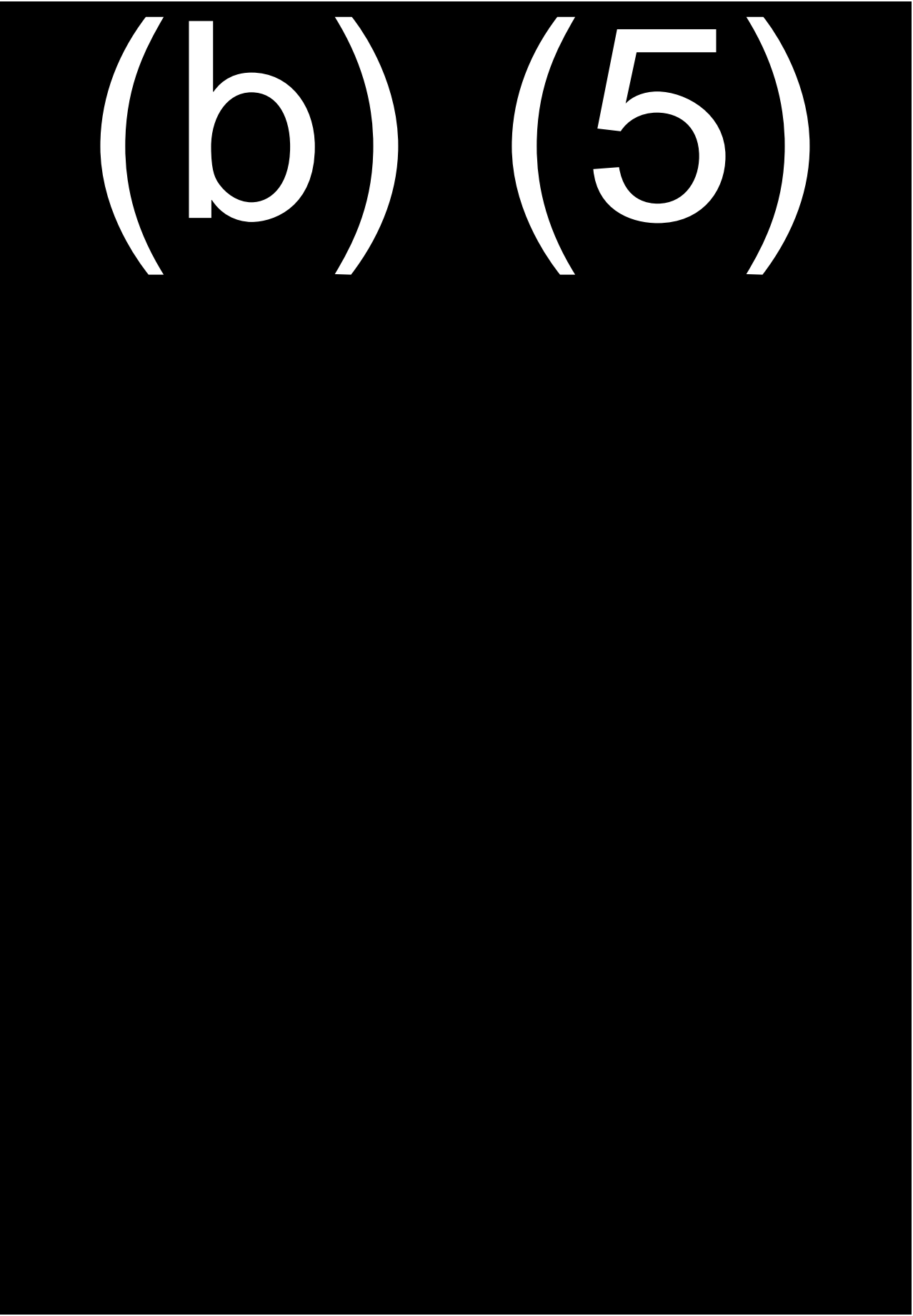
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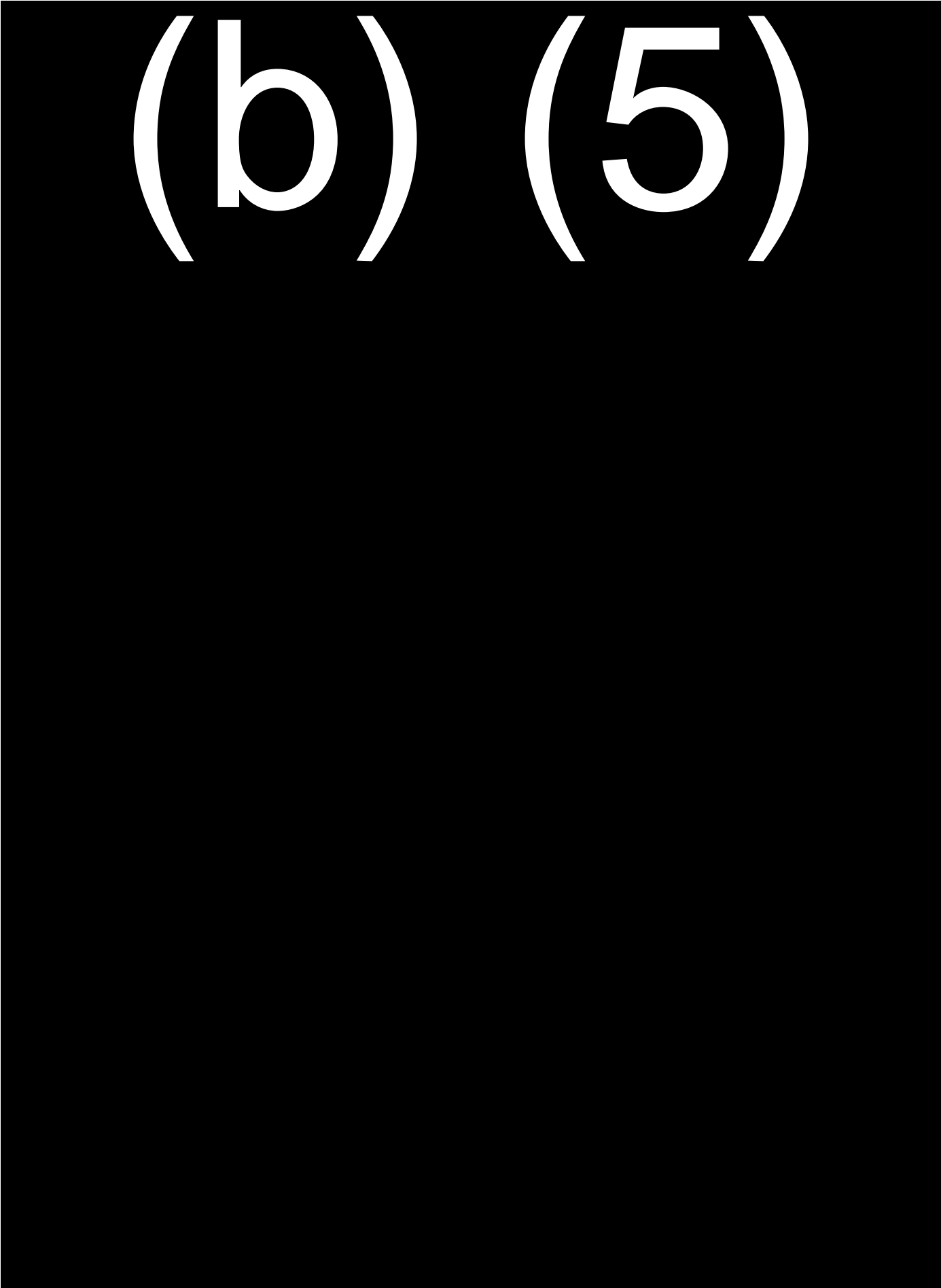
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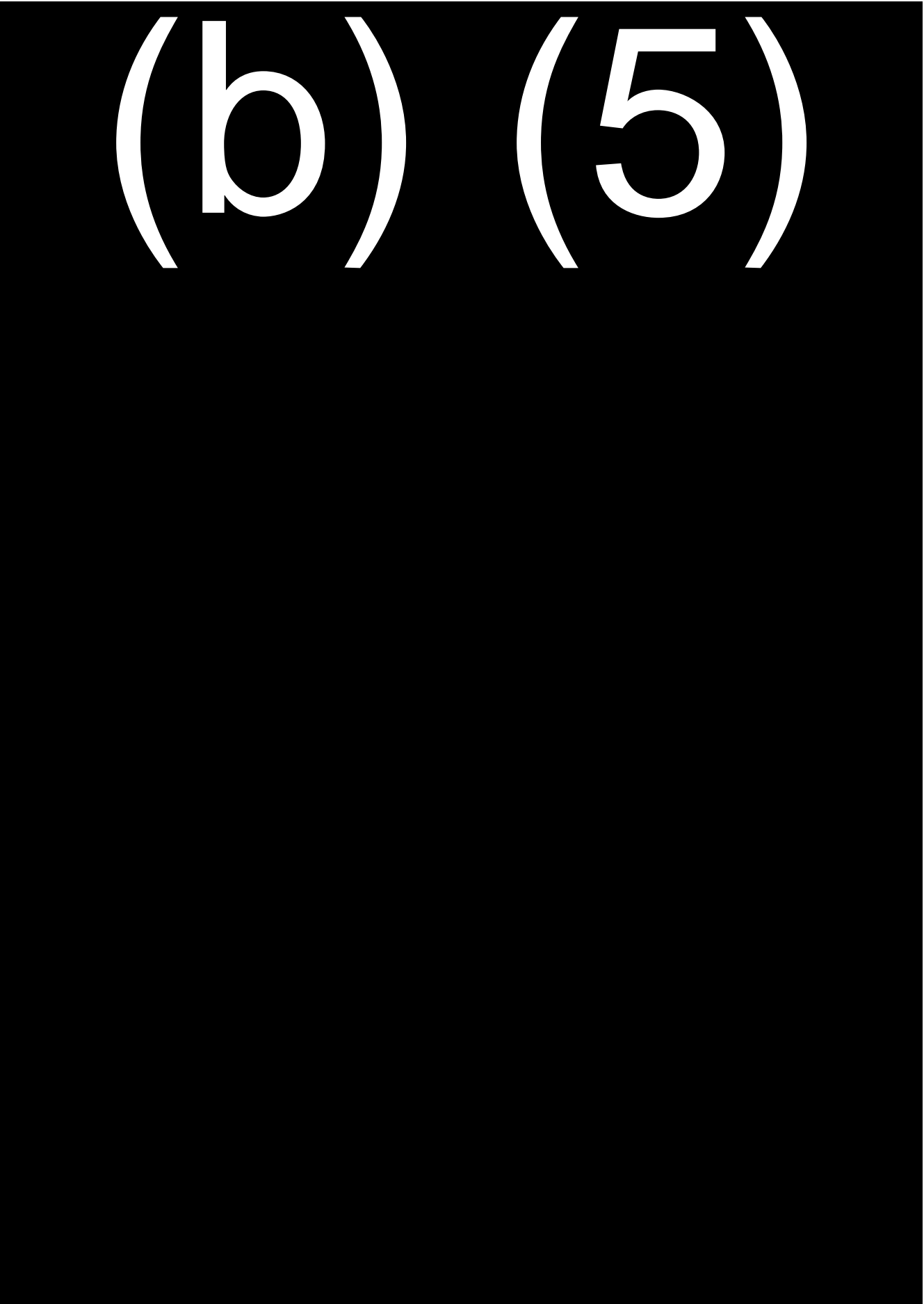
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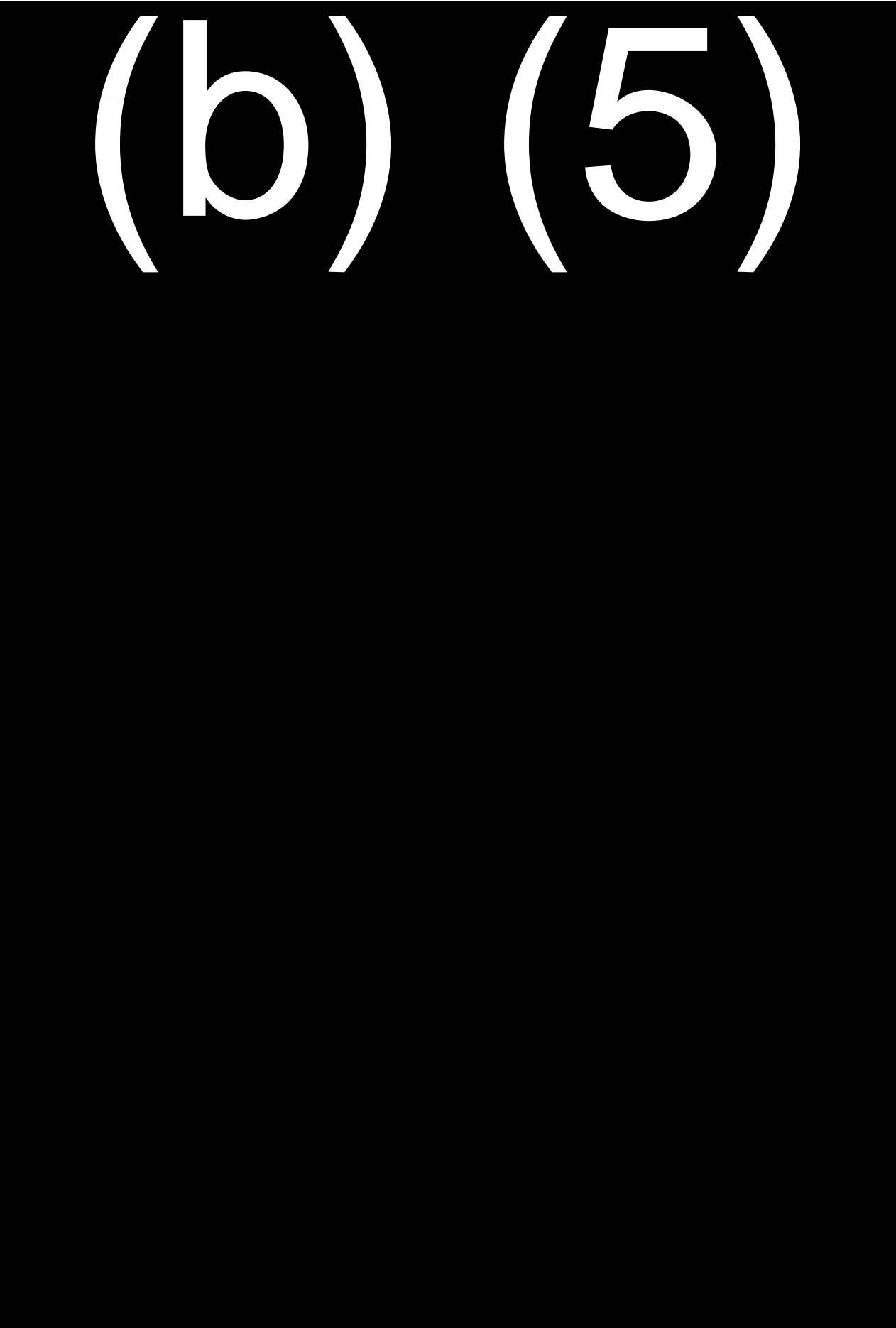


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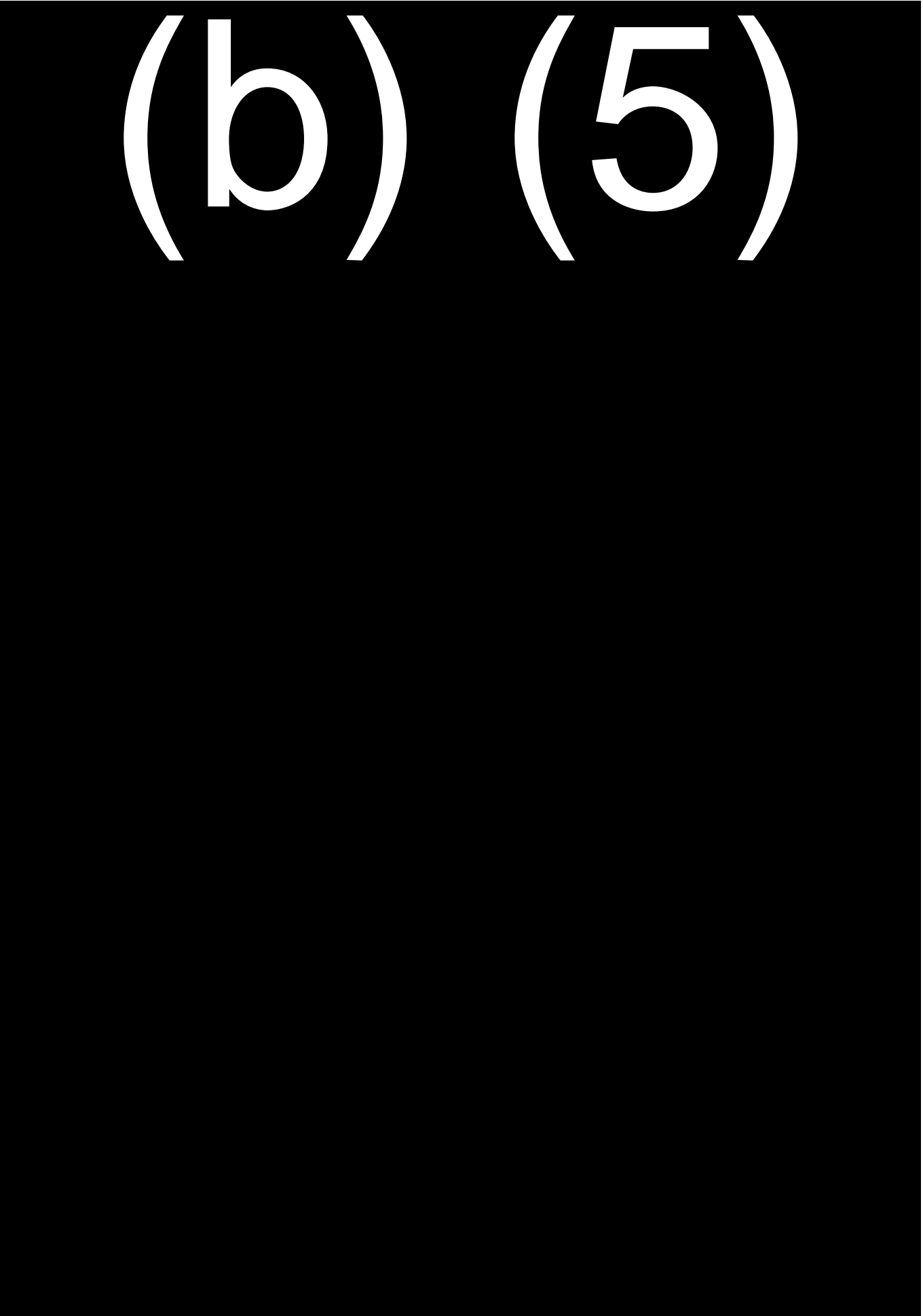
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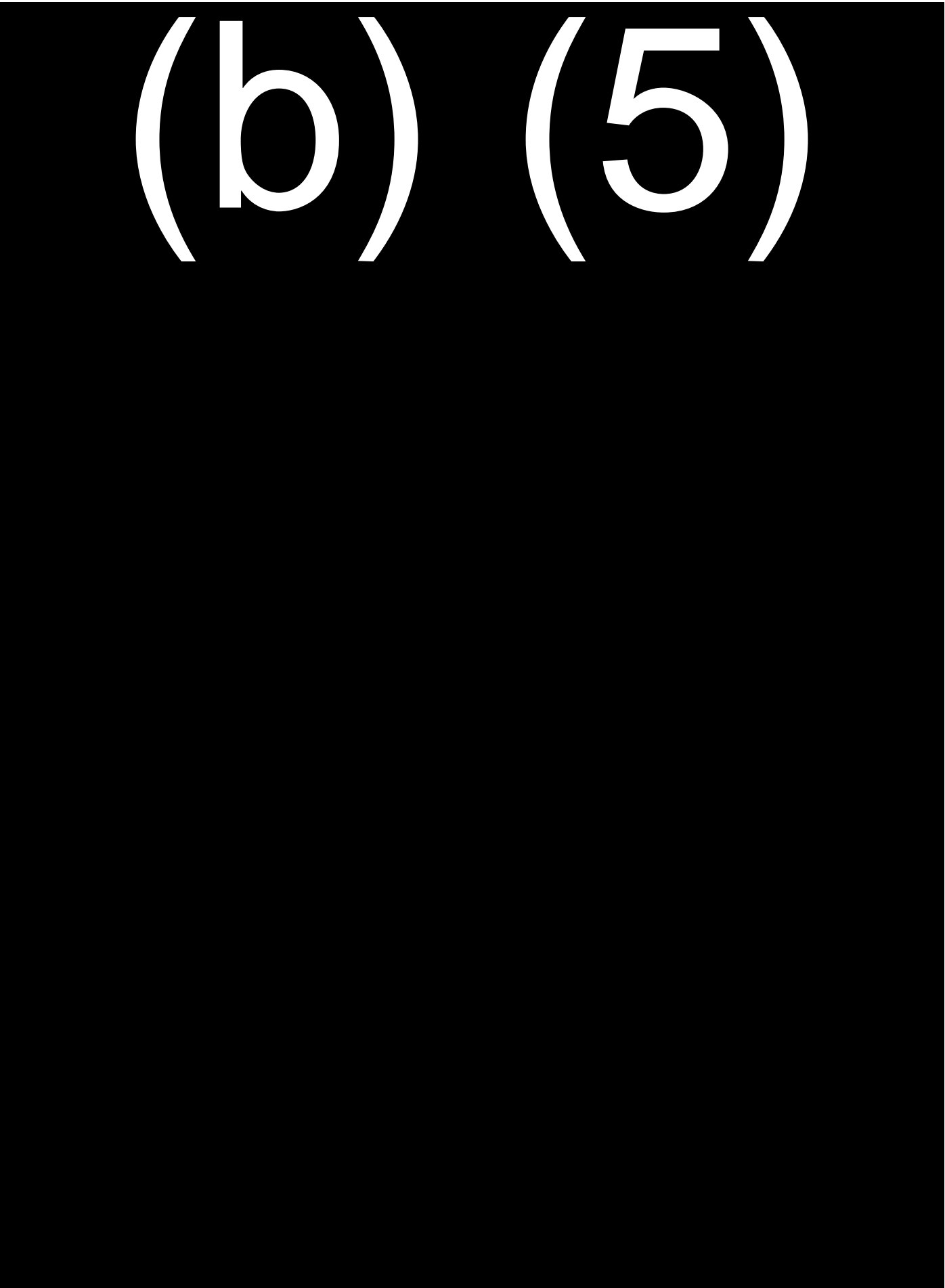
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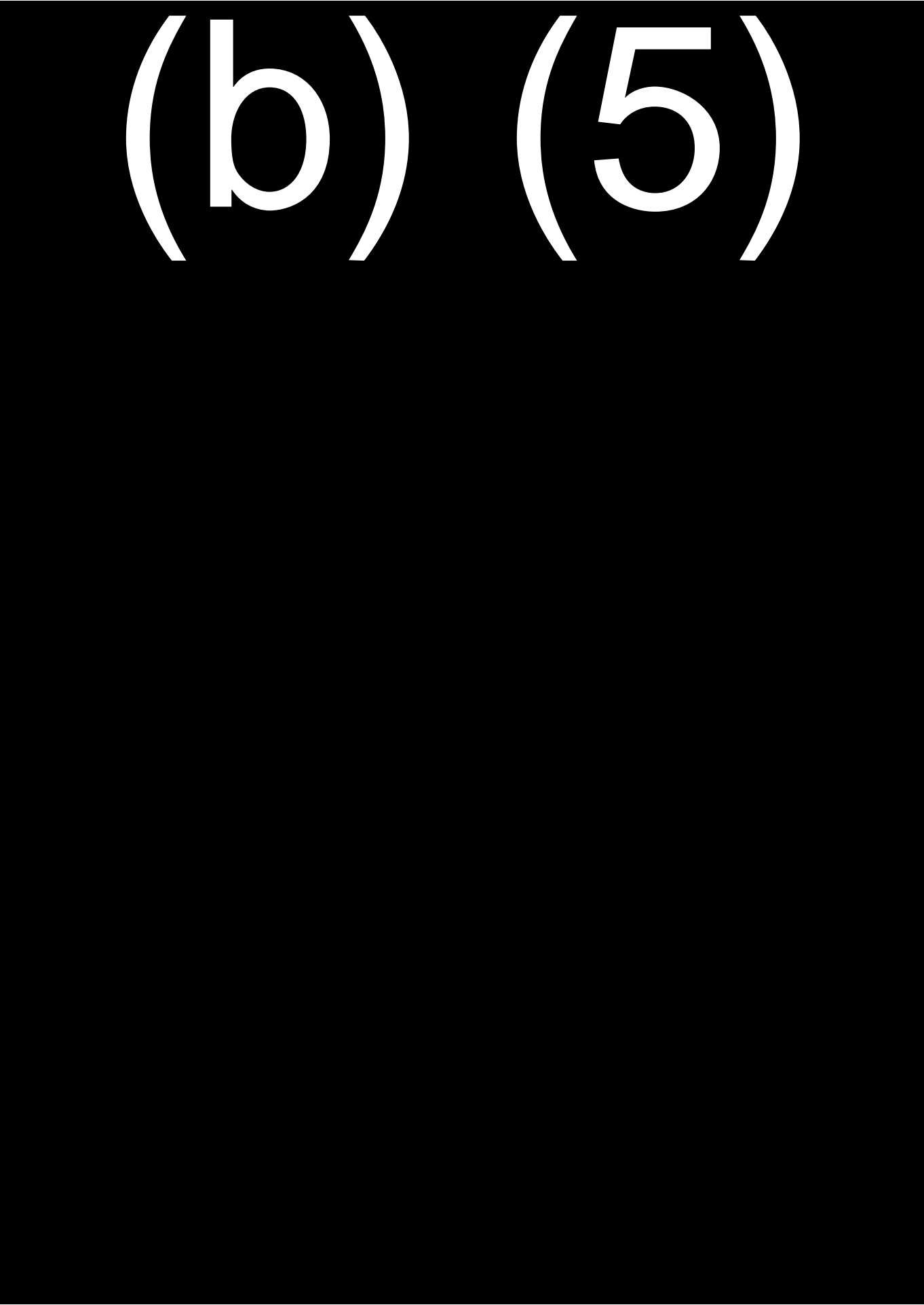
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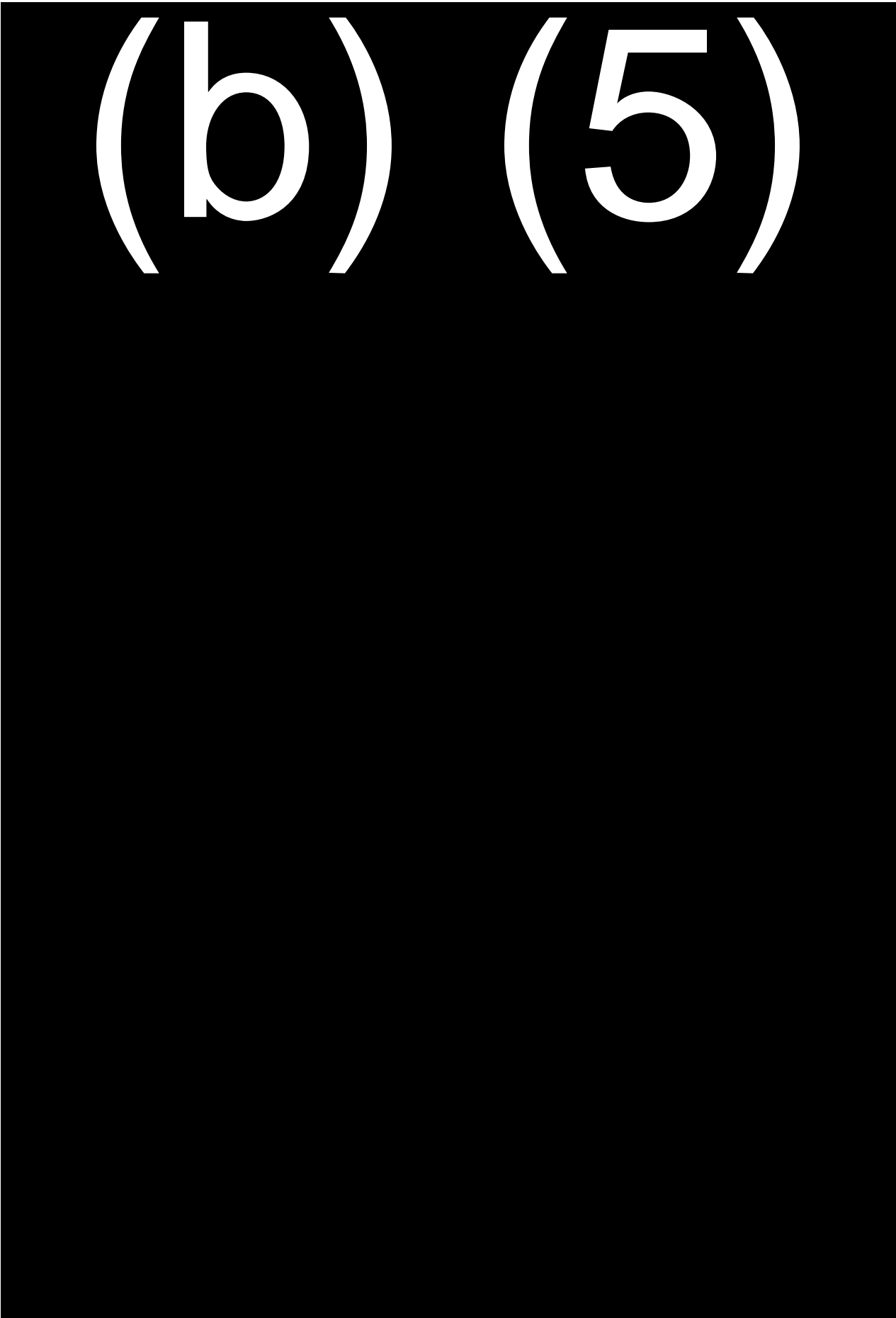
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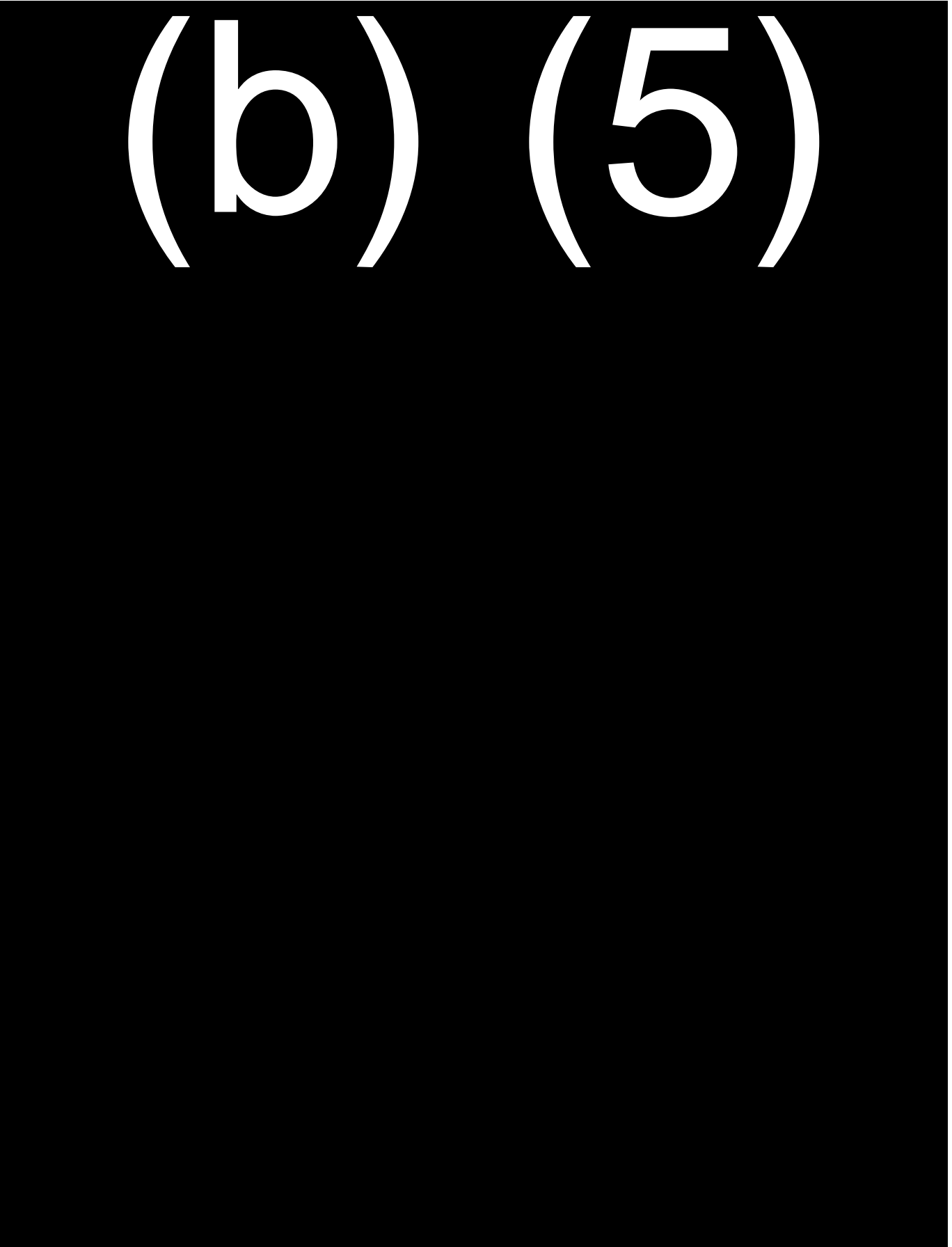


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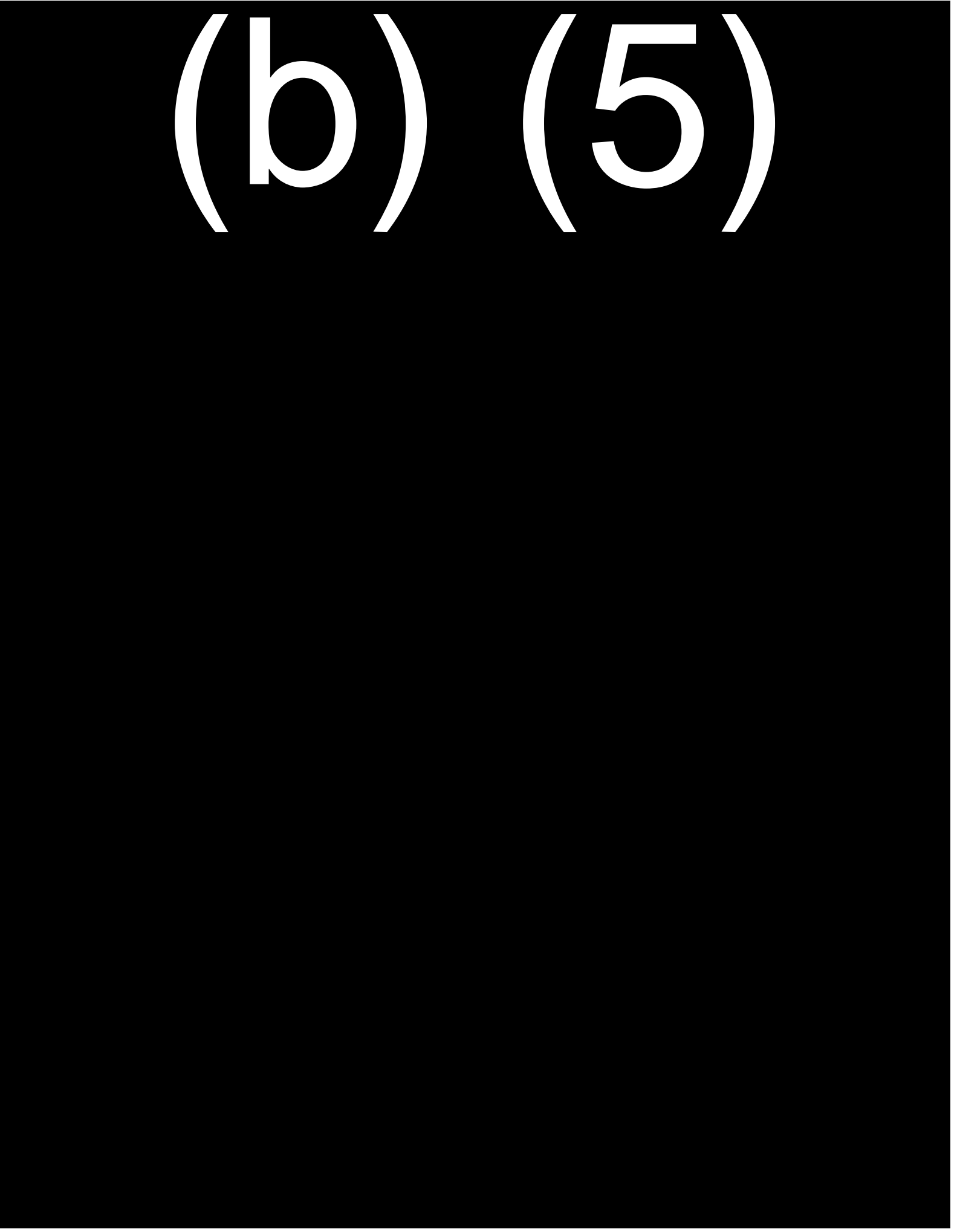


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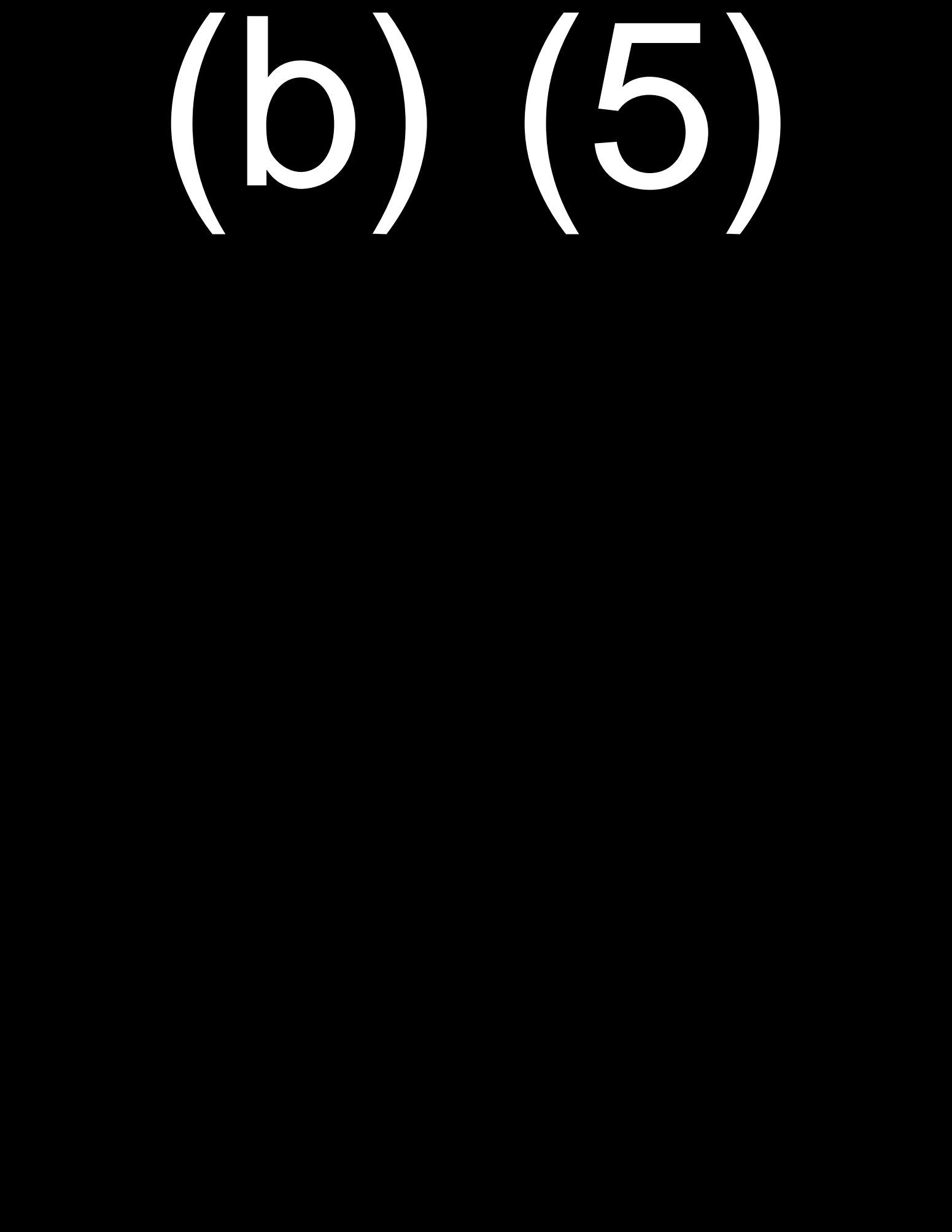
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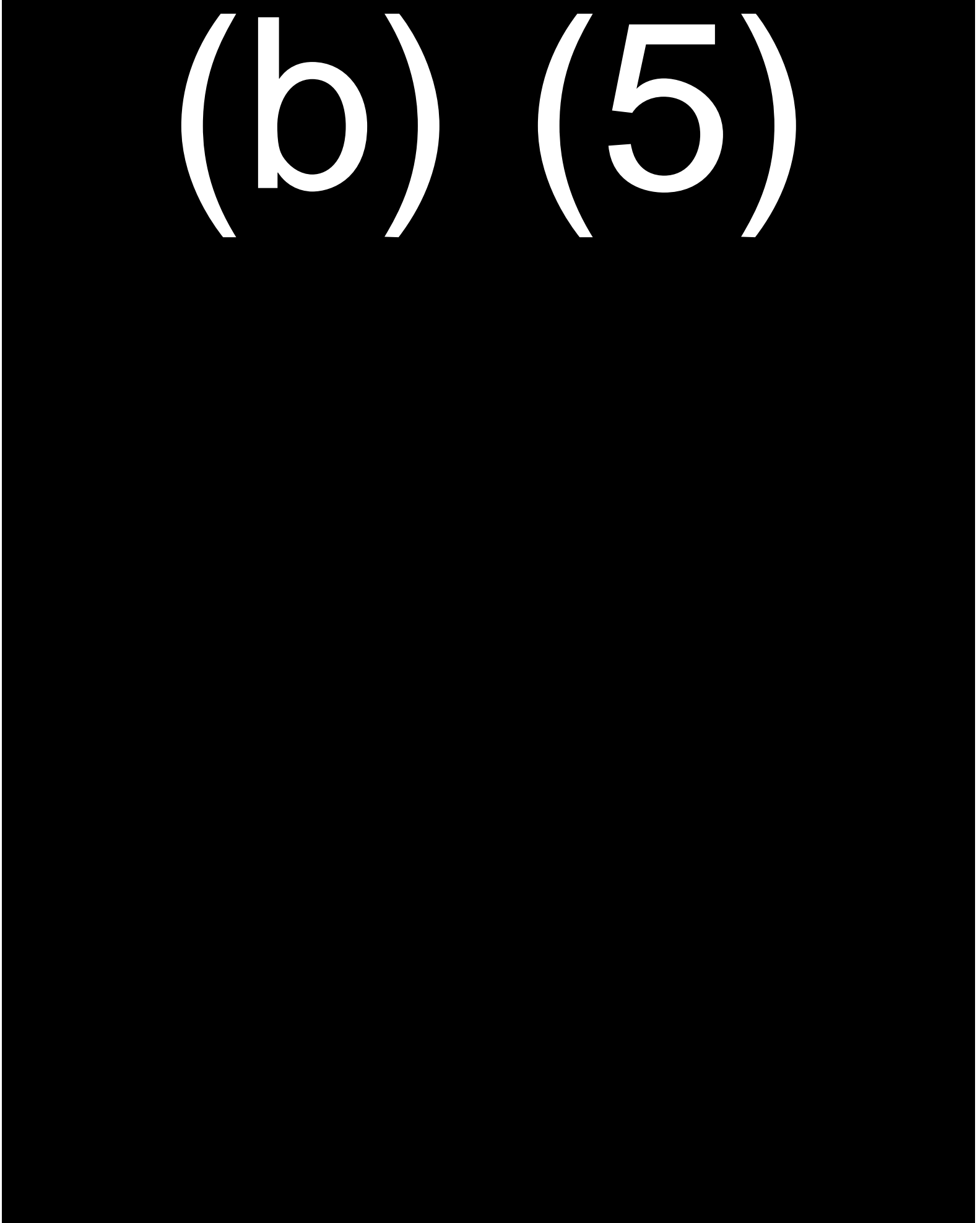
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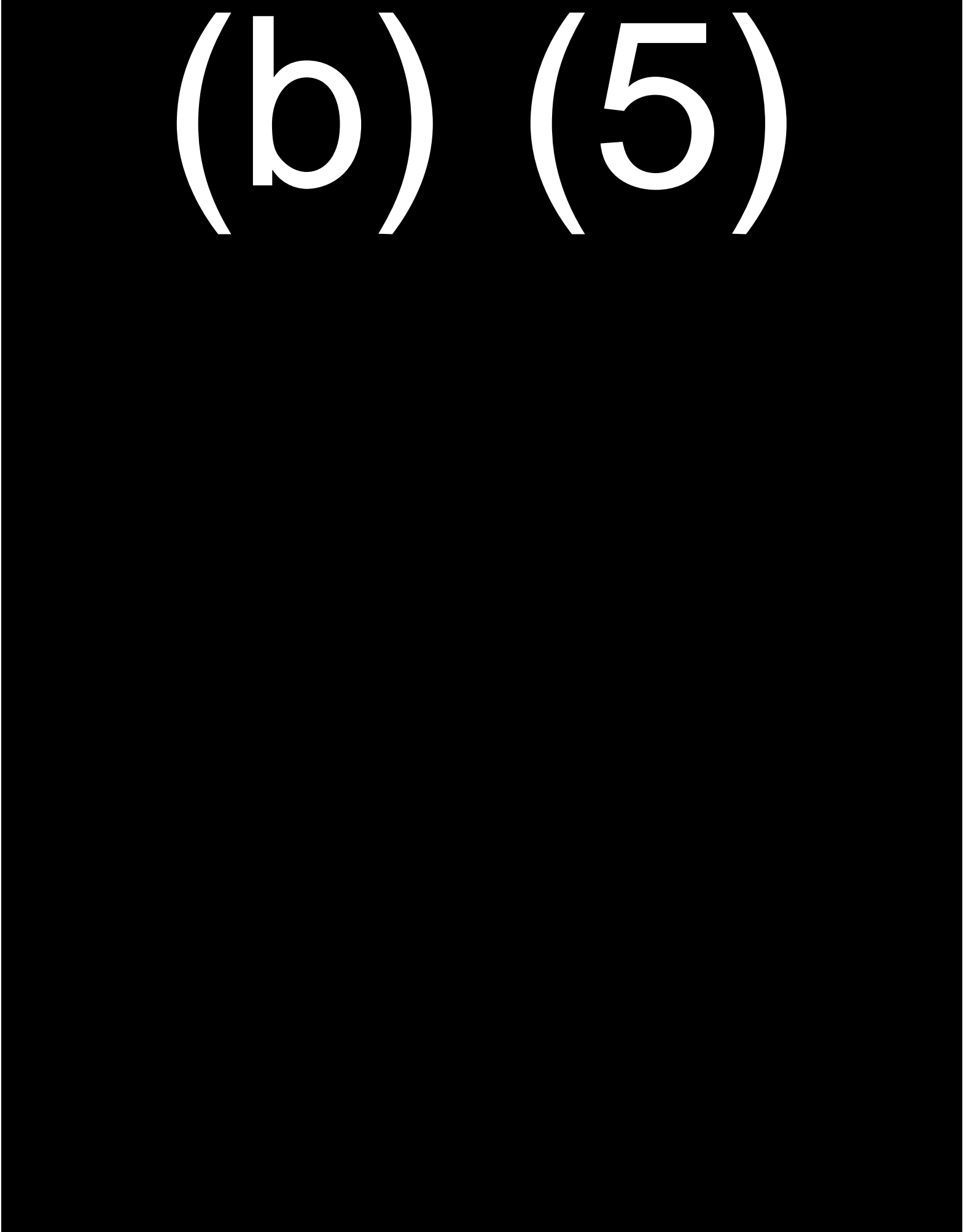
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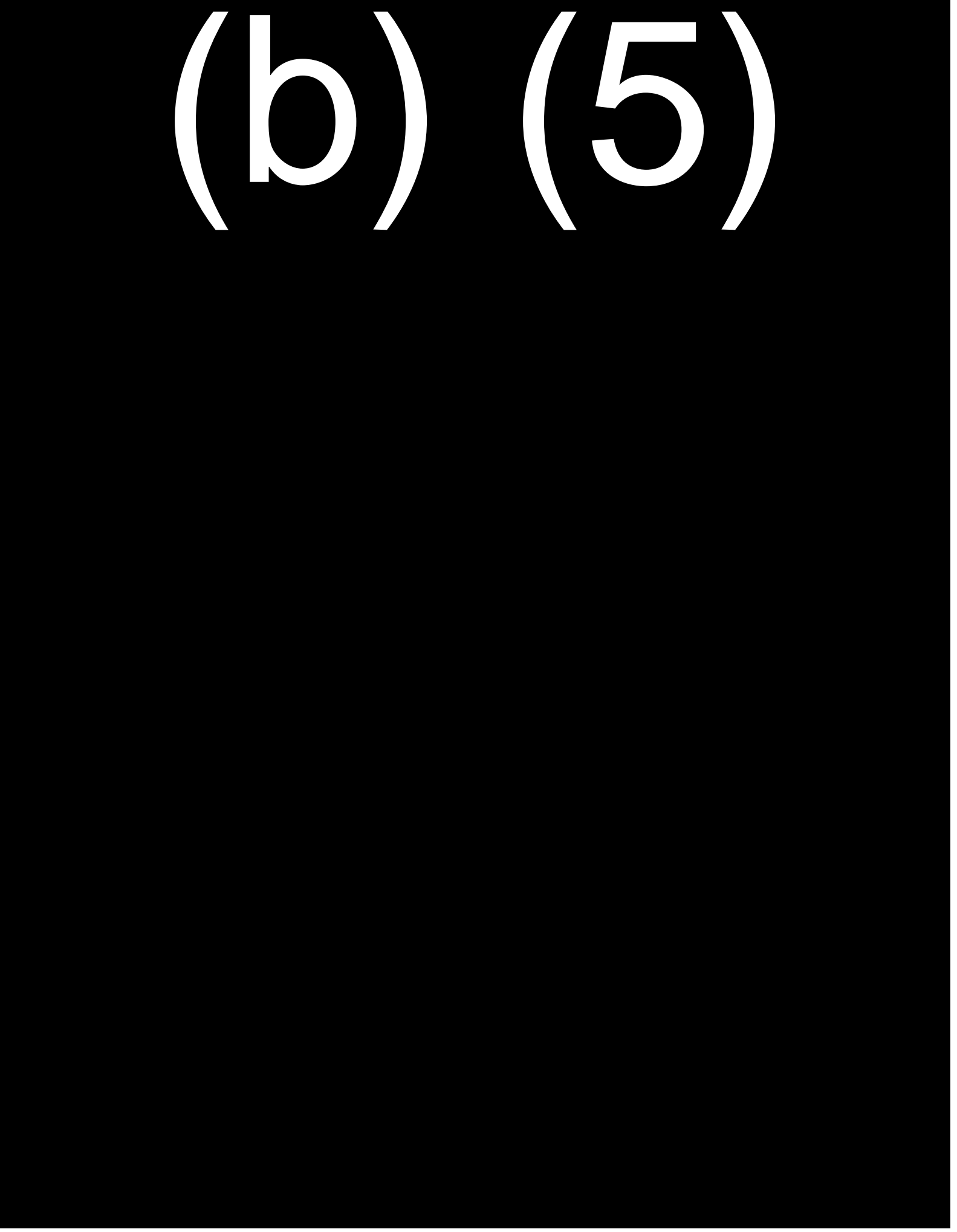
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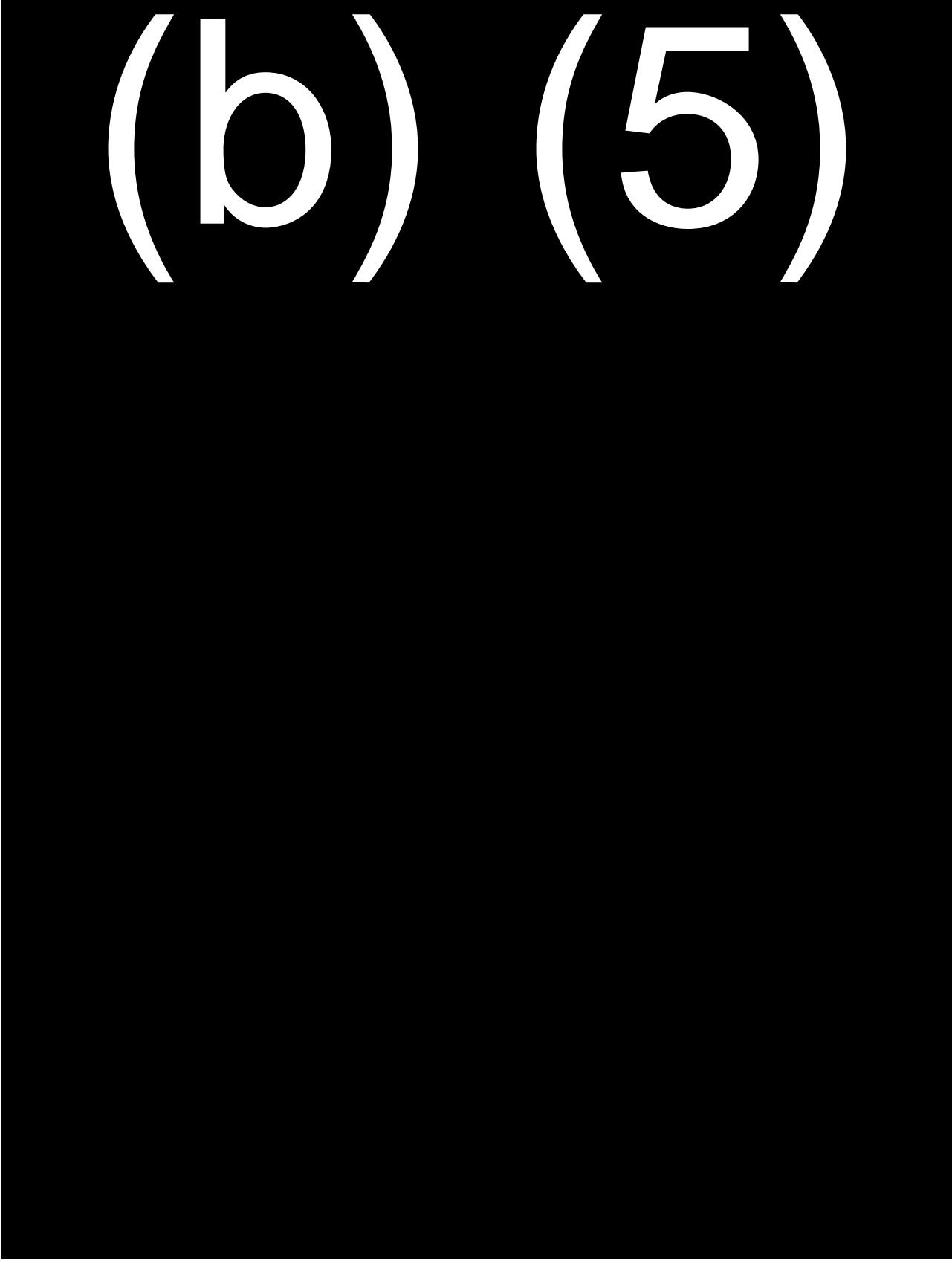
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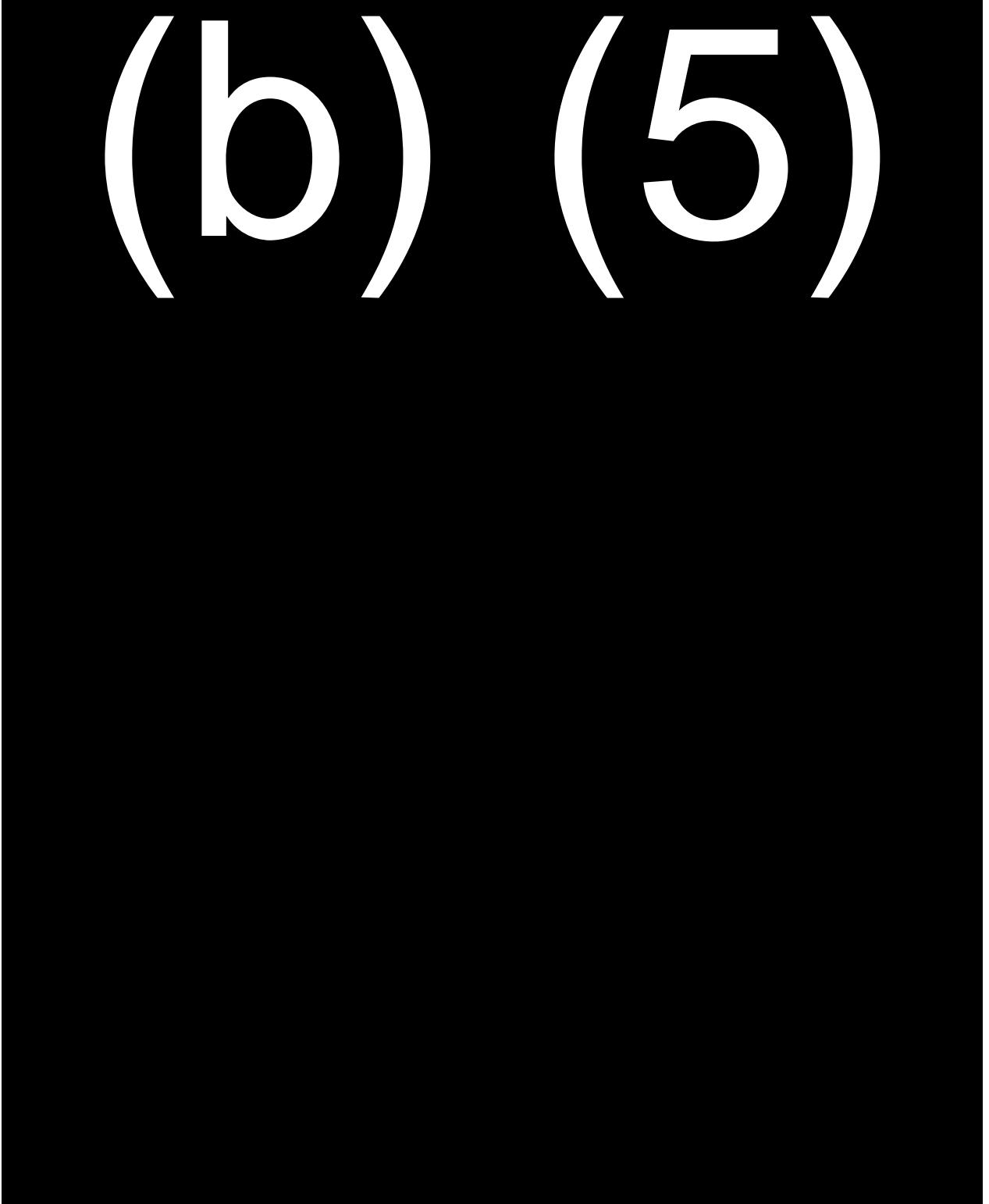
(b) (5)

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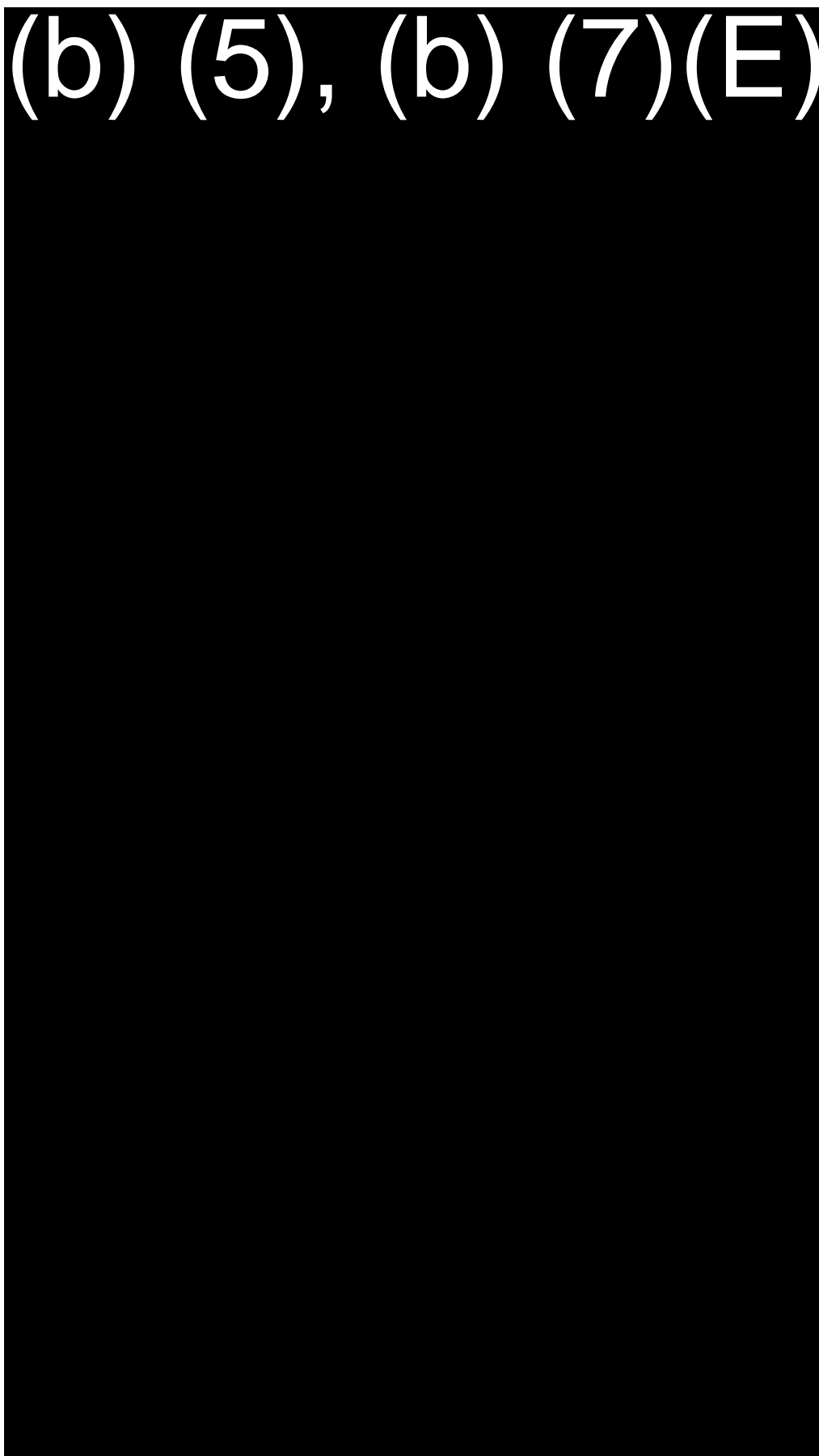
(b) (5)

(b) (5), (b) (7)(E)

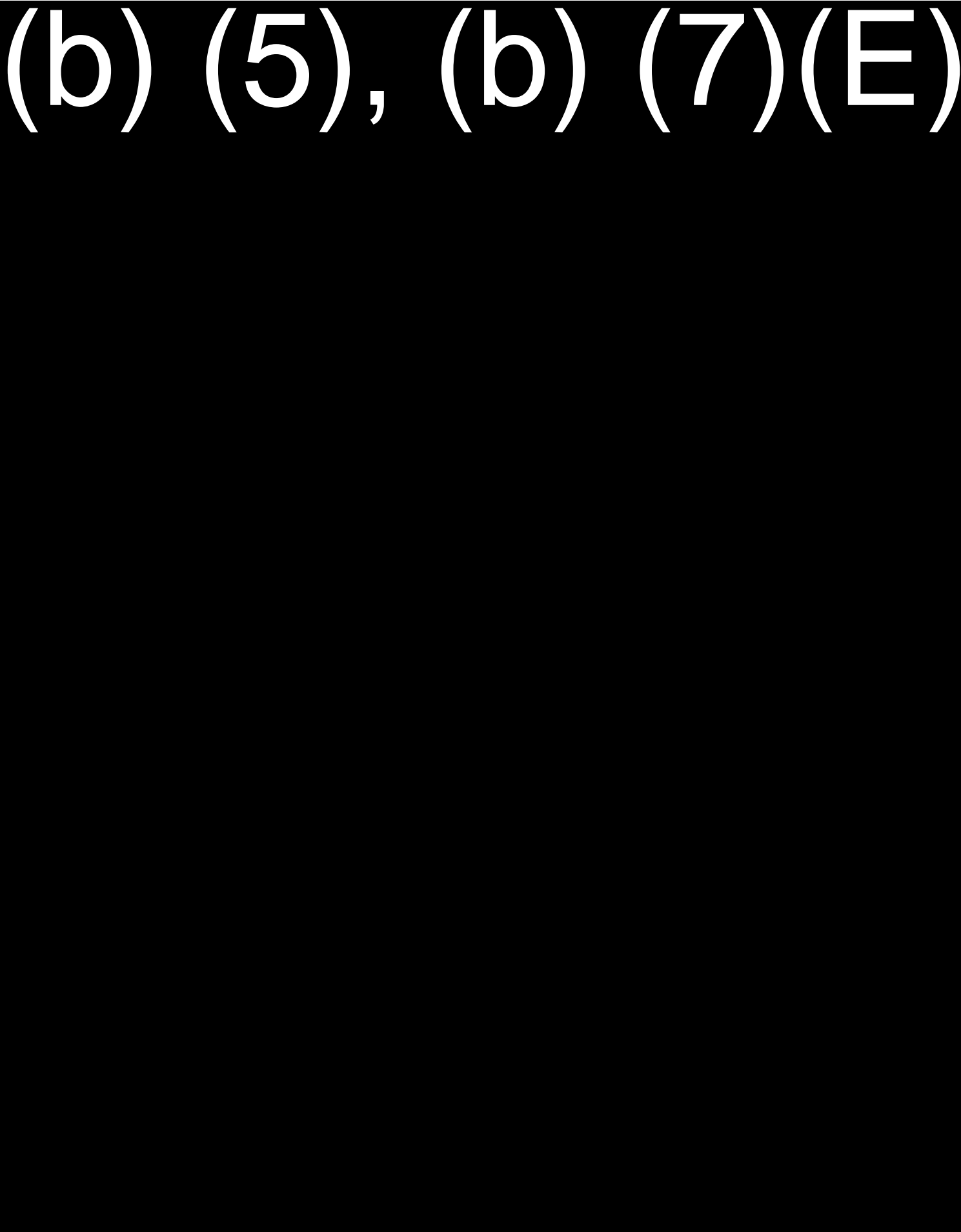


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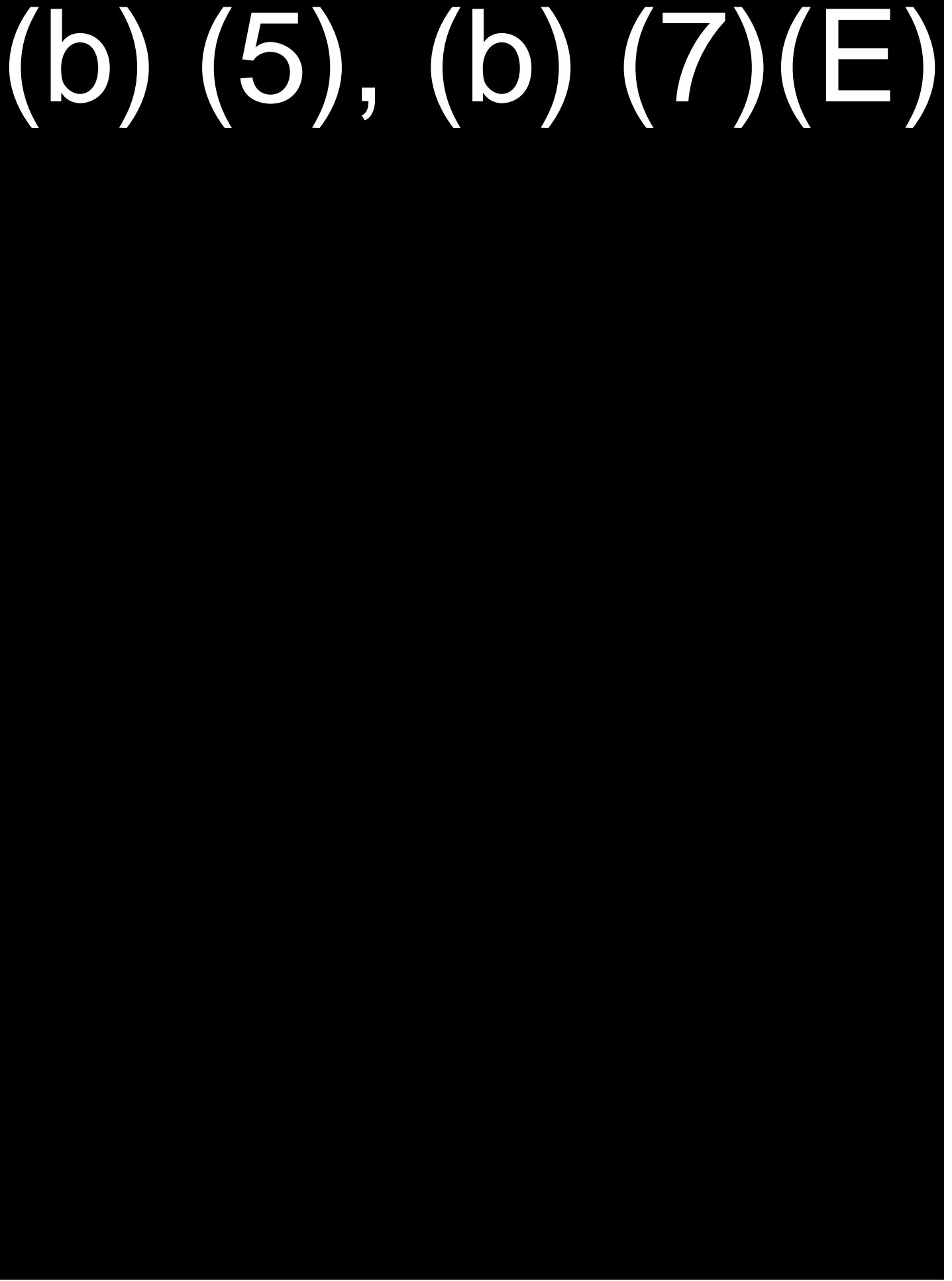
(b) (5), (b) (7)(E)



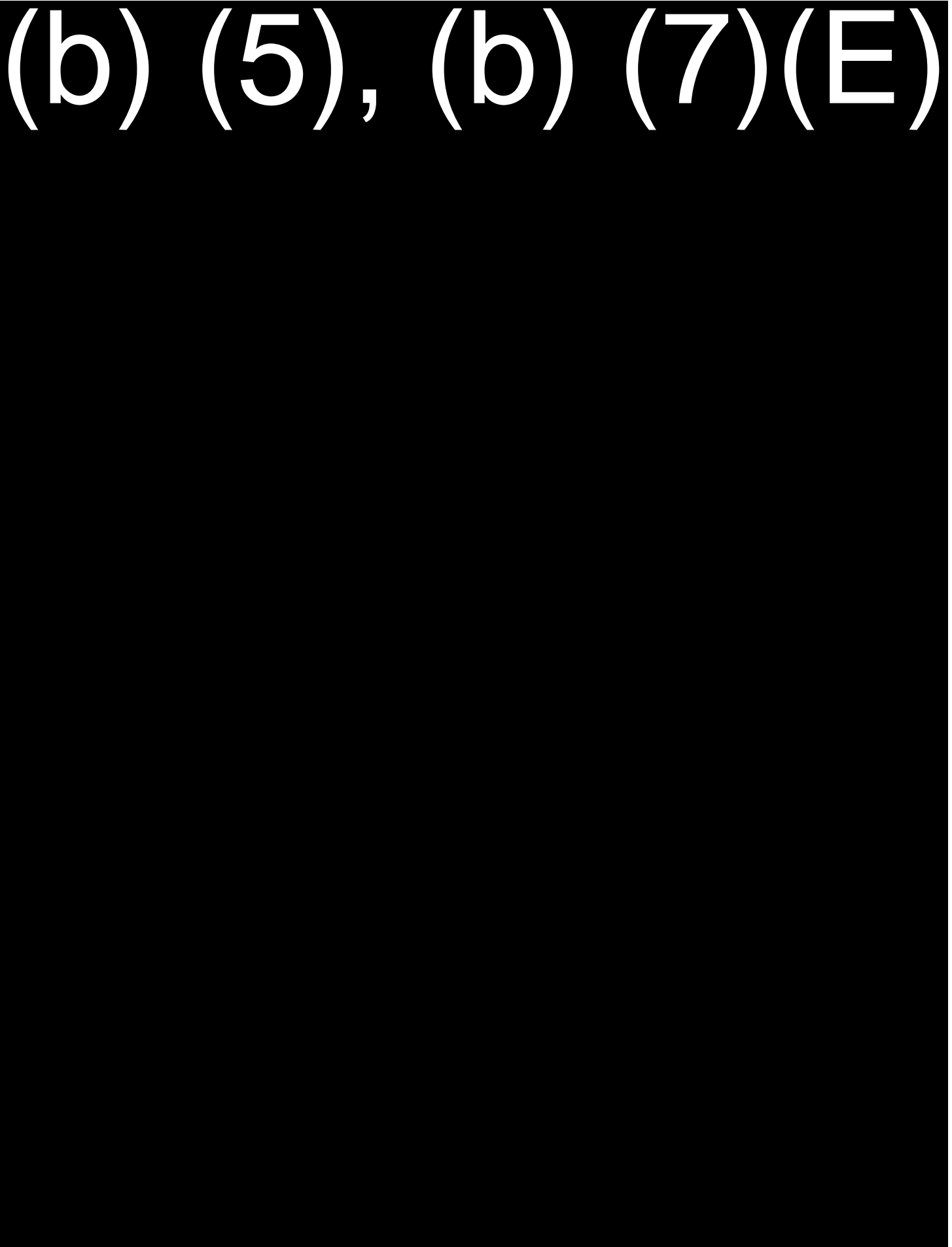
(b) (5), (b) (7)(E)



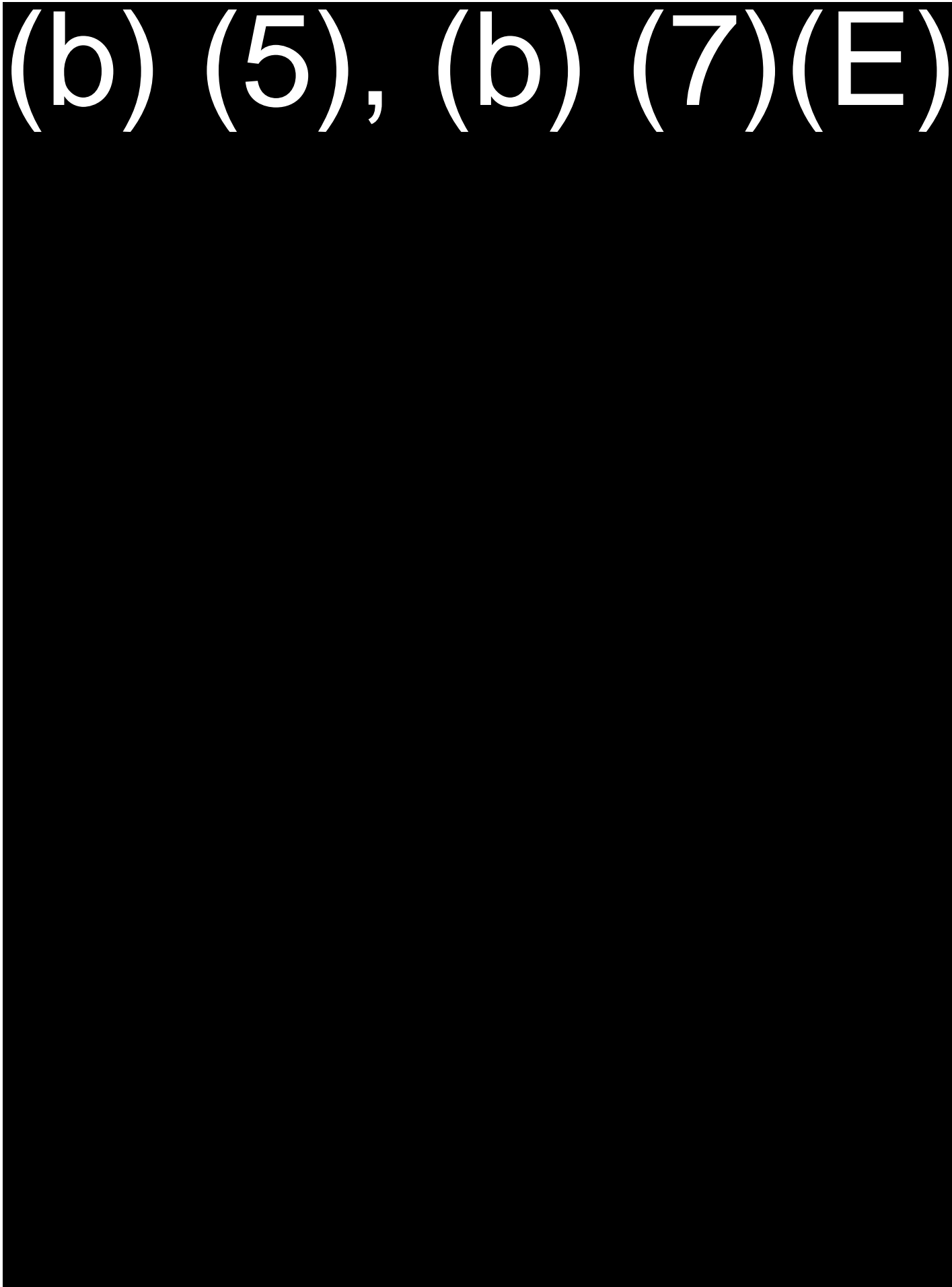
(b) (5), (b) (7)(E)



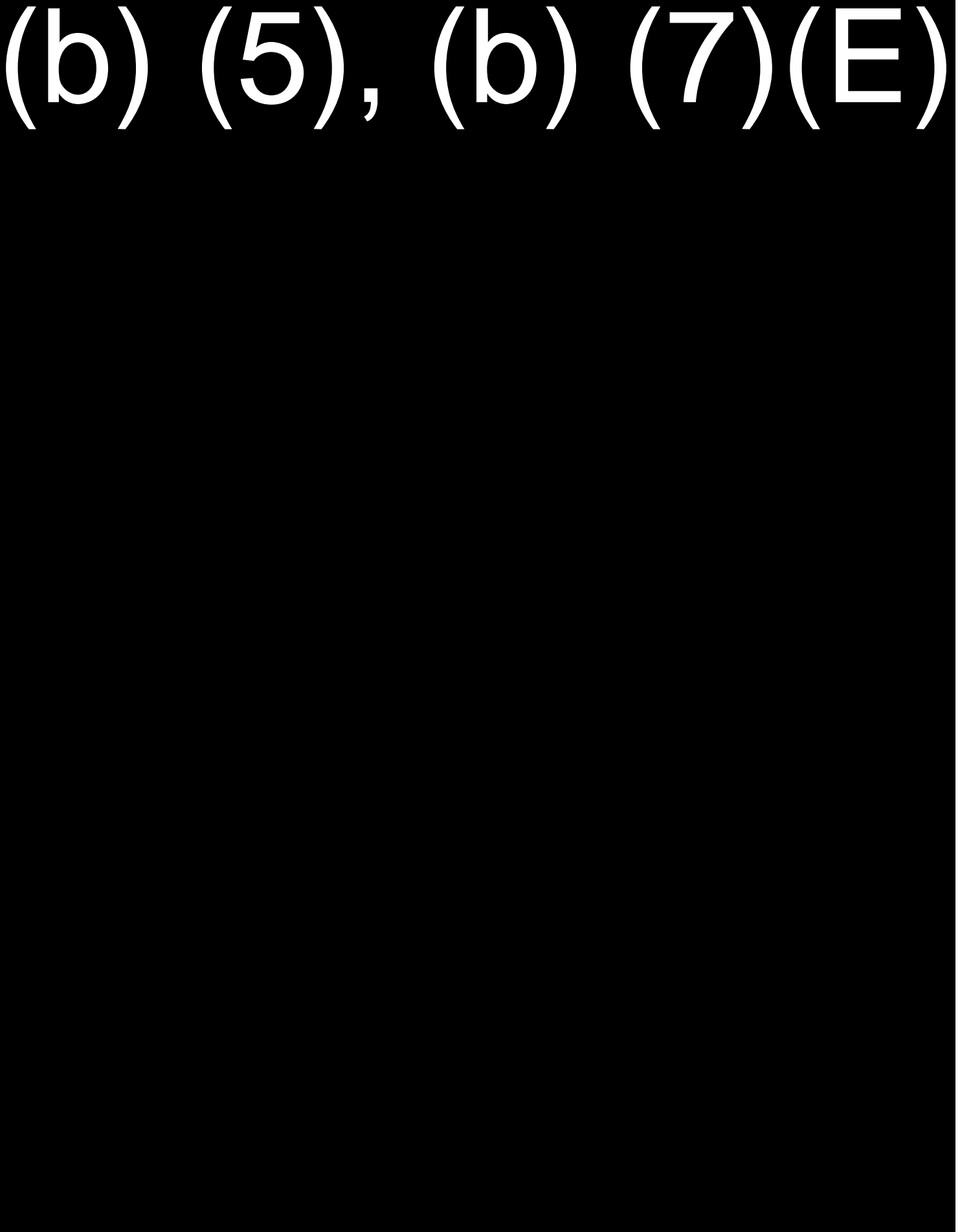
(b) (5), (b) (7)(E)



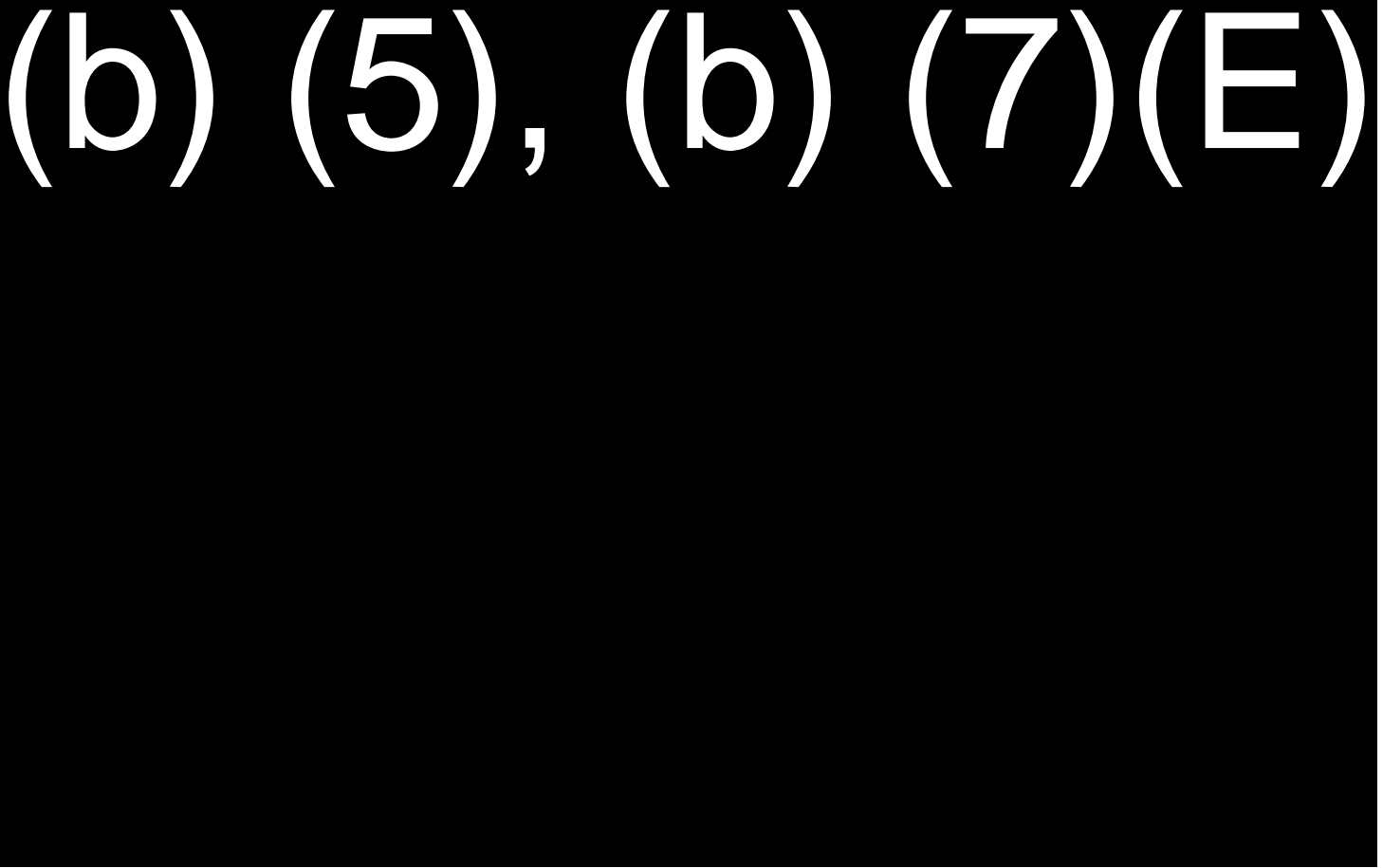
(b) (5), (b) (7)(E)



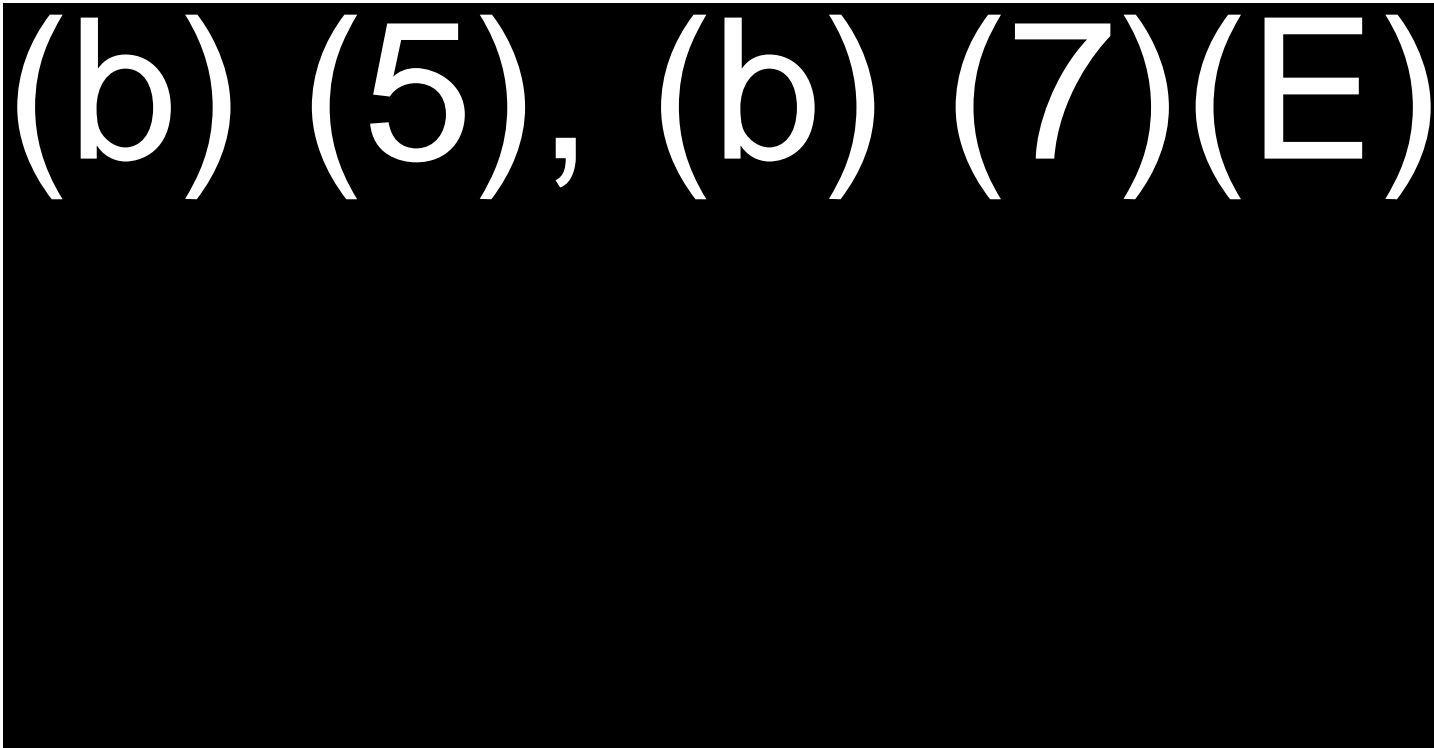
(b) (5), (b) (7)(E)



(b) (5), (b) (7)(E)



(b) (5), (b) (7)(E)



TOTAL	(b) (7)(E), (b) (5)
NEW	
REPLACEMENT	
TOTAL	

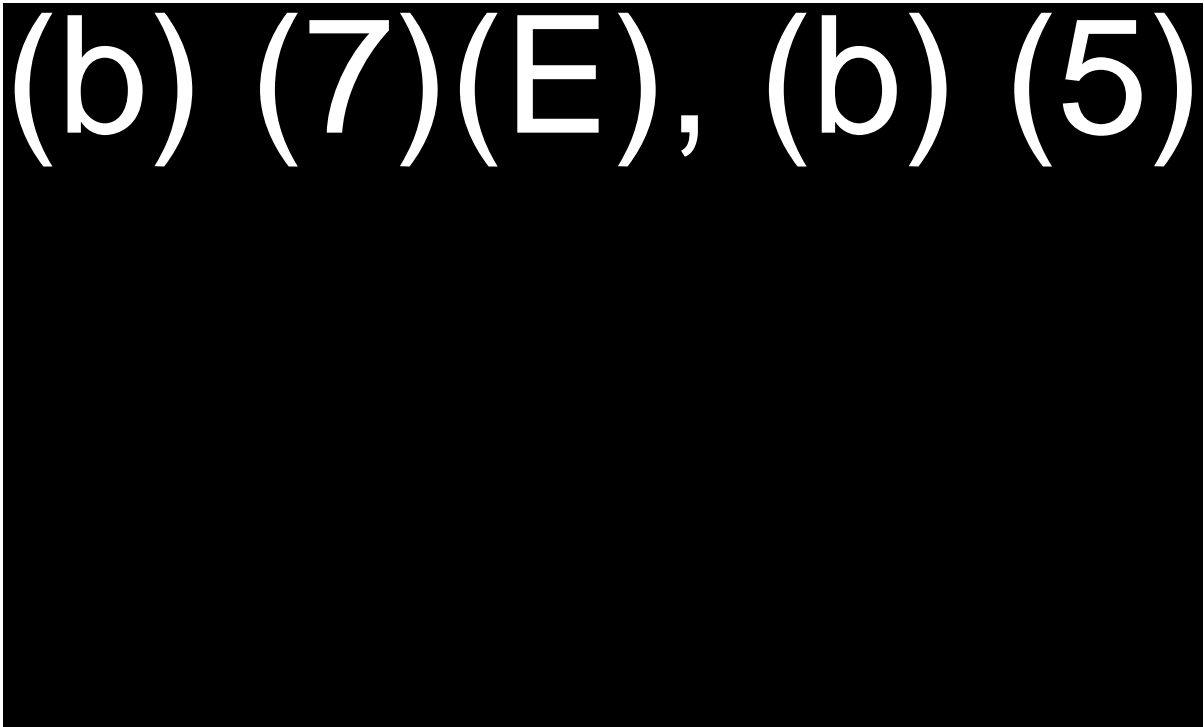
Sector	Station	Zone	Description	Miles	Cost	CORE CARD	
RGV	(b) (7)(E), (b) (5)						
RGV							
SDC							
SDC							
SDC							
SDC							
EPT							
TOTAL							

(b) (7)(E), (b) (5)

Total

(b) (7)(E), (b) (5)

(b) (7)(E), (b) (5)

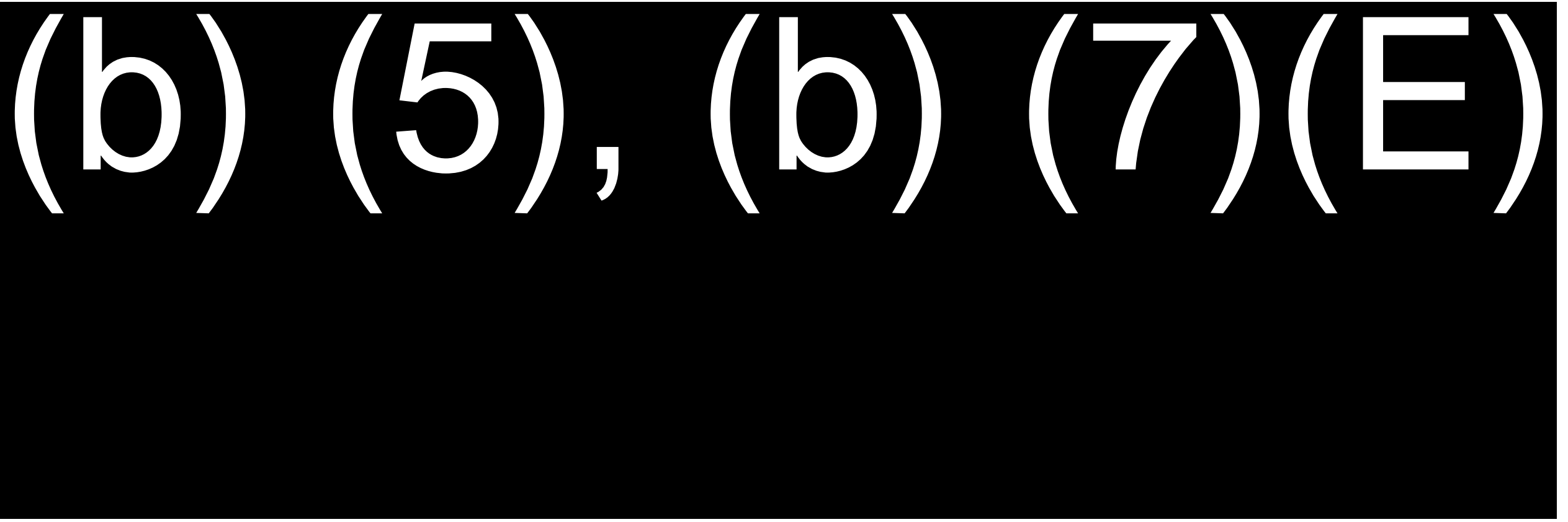


(b) (7)(E), (b) (5)



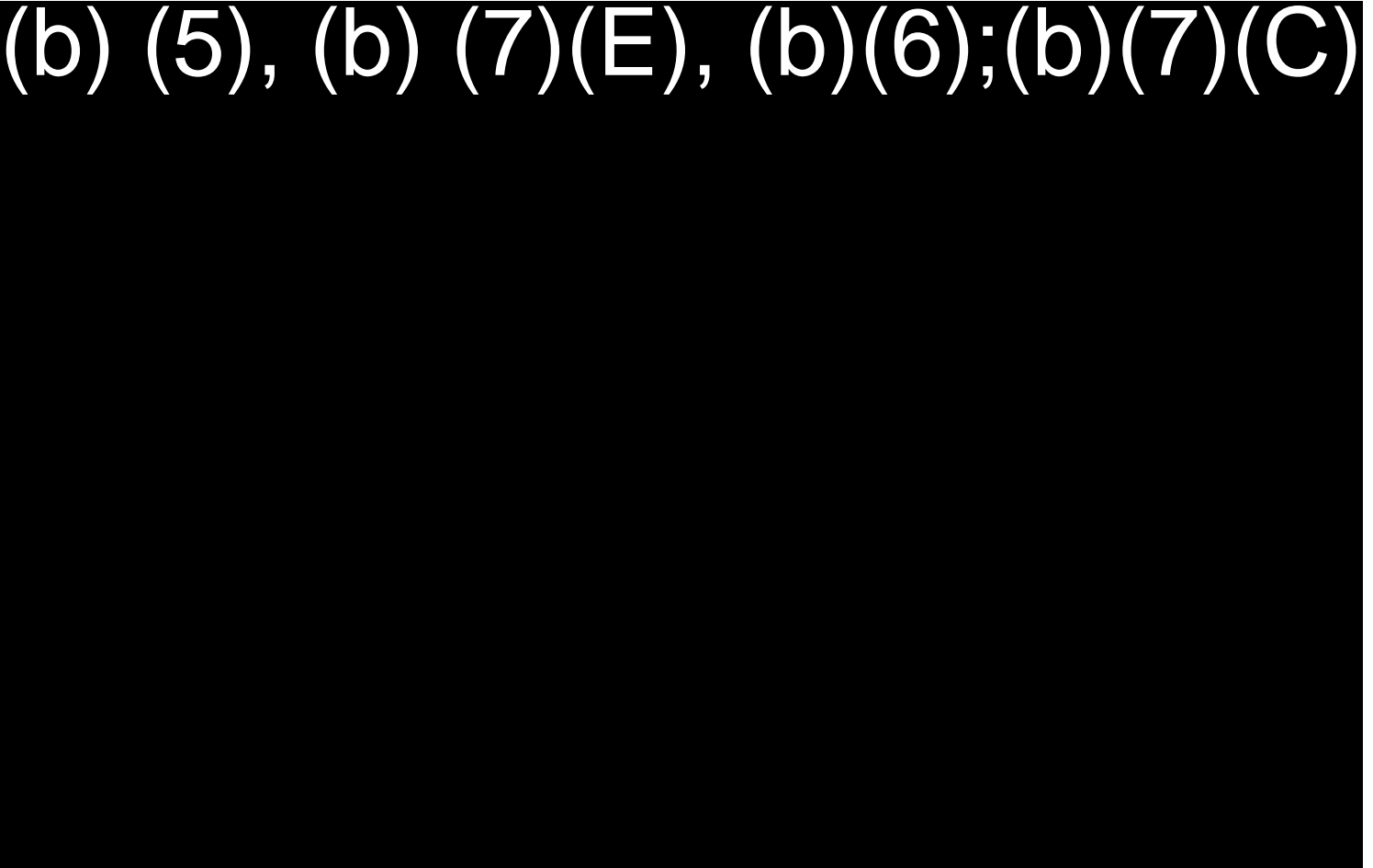
USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN									
XXXXX SECTOR									
Fill These with Miles									
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority
(b) (5), (b) (7)(E)									

(b) (5), (b) (7)(E)

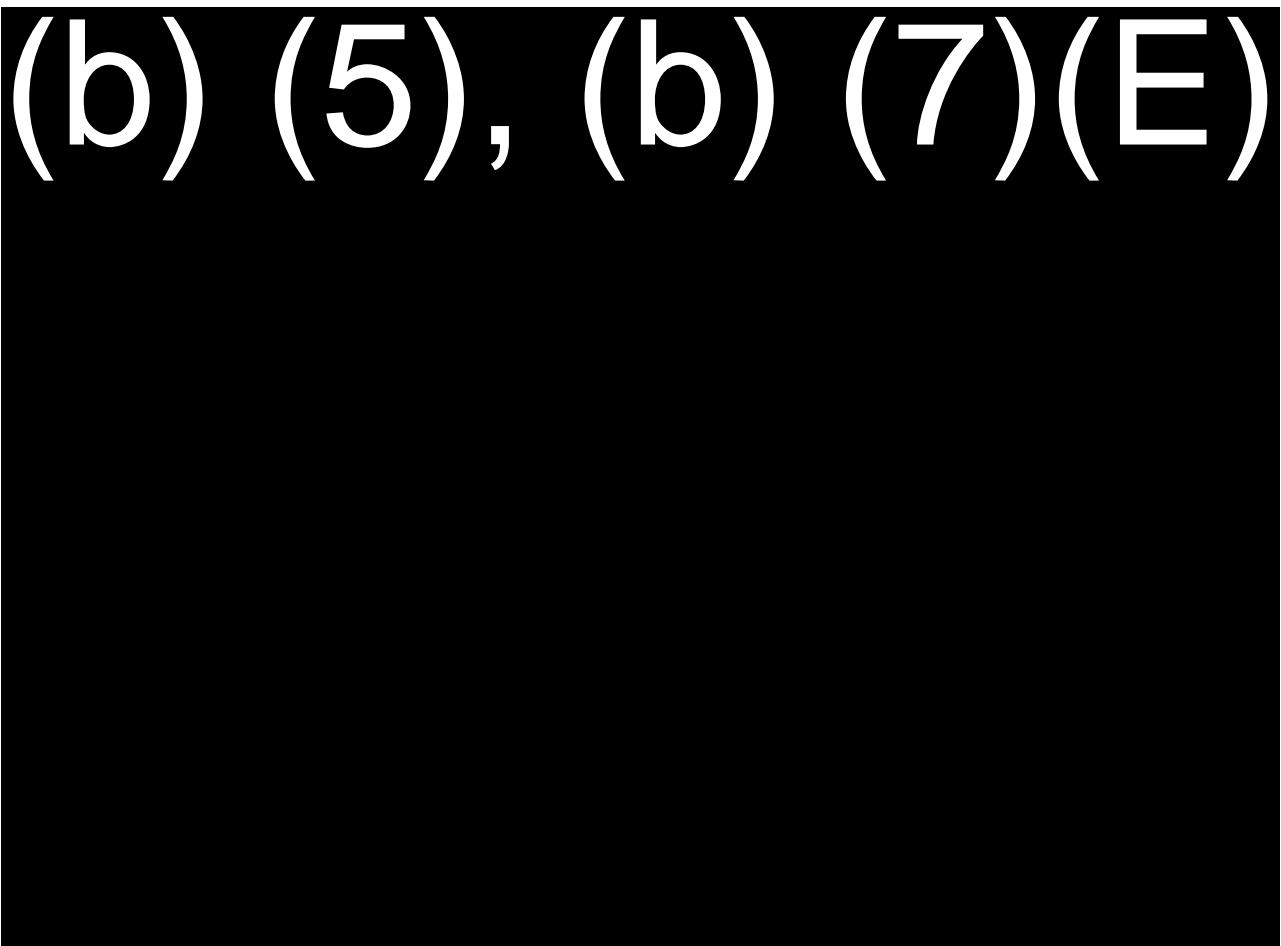


	Miles
Replacement Fence	(b) (5), (b) (7)(E)
Operationally achievable with TI	
Operationally Achievable with TI or other assets	
TOTAL	

(b) (5), (b) (7)(E), (b)(6);(b)(7)(C)



(b) (5), (b) (7)(E)



USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
BIG BEND SECTOR											

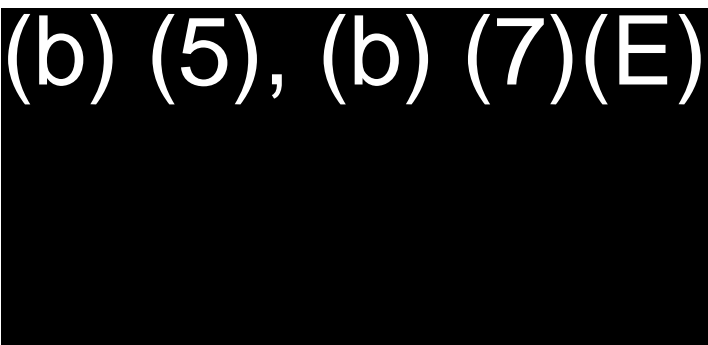
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
BLAINE SECTOR											
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority
(b) (5), (b) (7)(E)											

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN								
BUFFALO SECTOR								
Fill These with Miles								
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)
(b) (5), (b) (7)(E)								

(b) (5), (b) (7)(E)

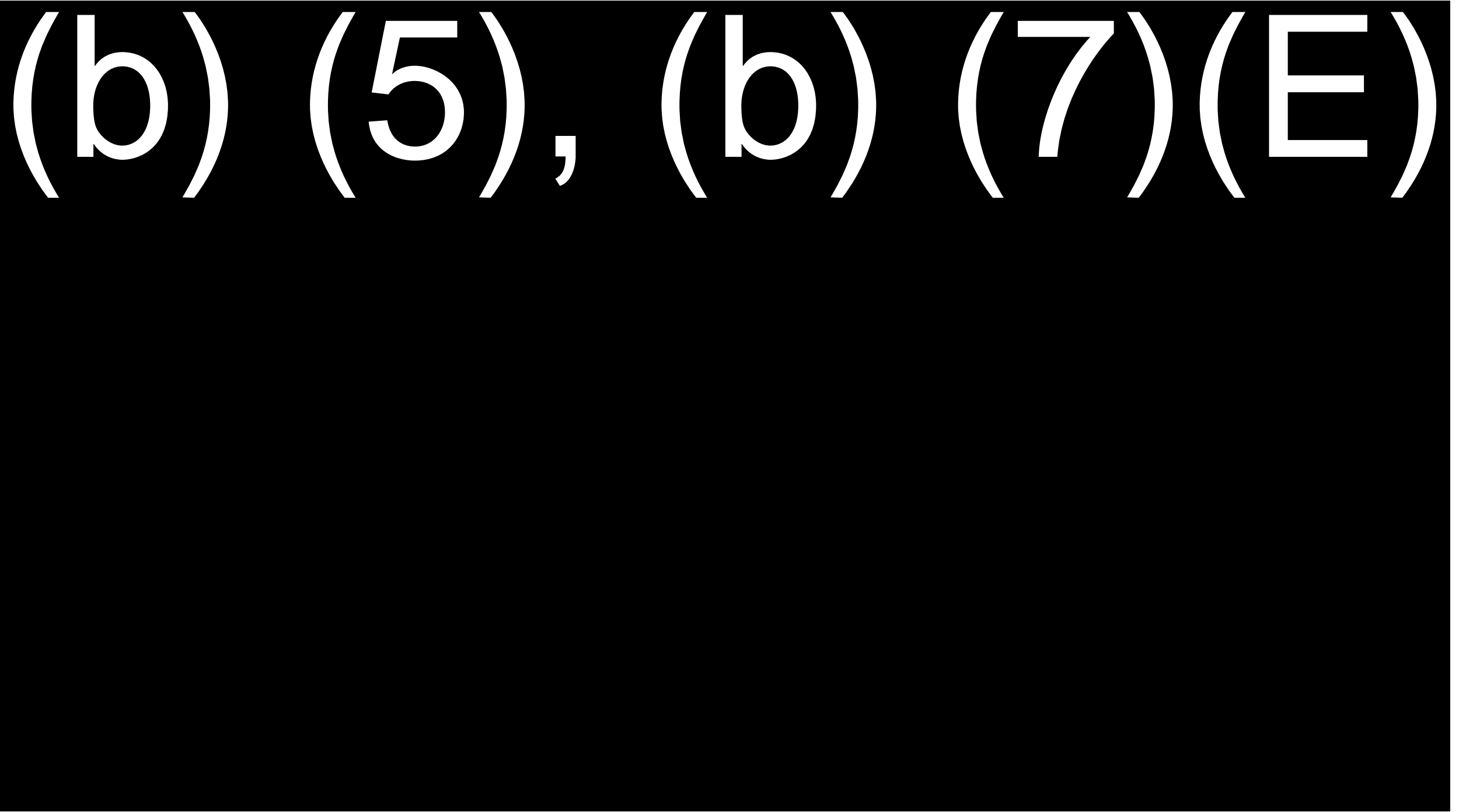


USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
DEL RIO SECTOR											

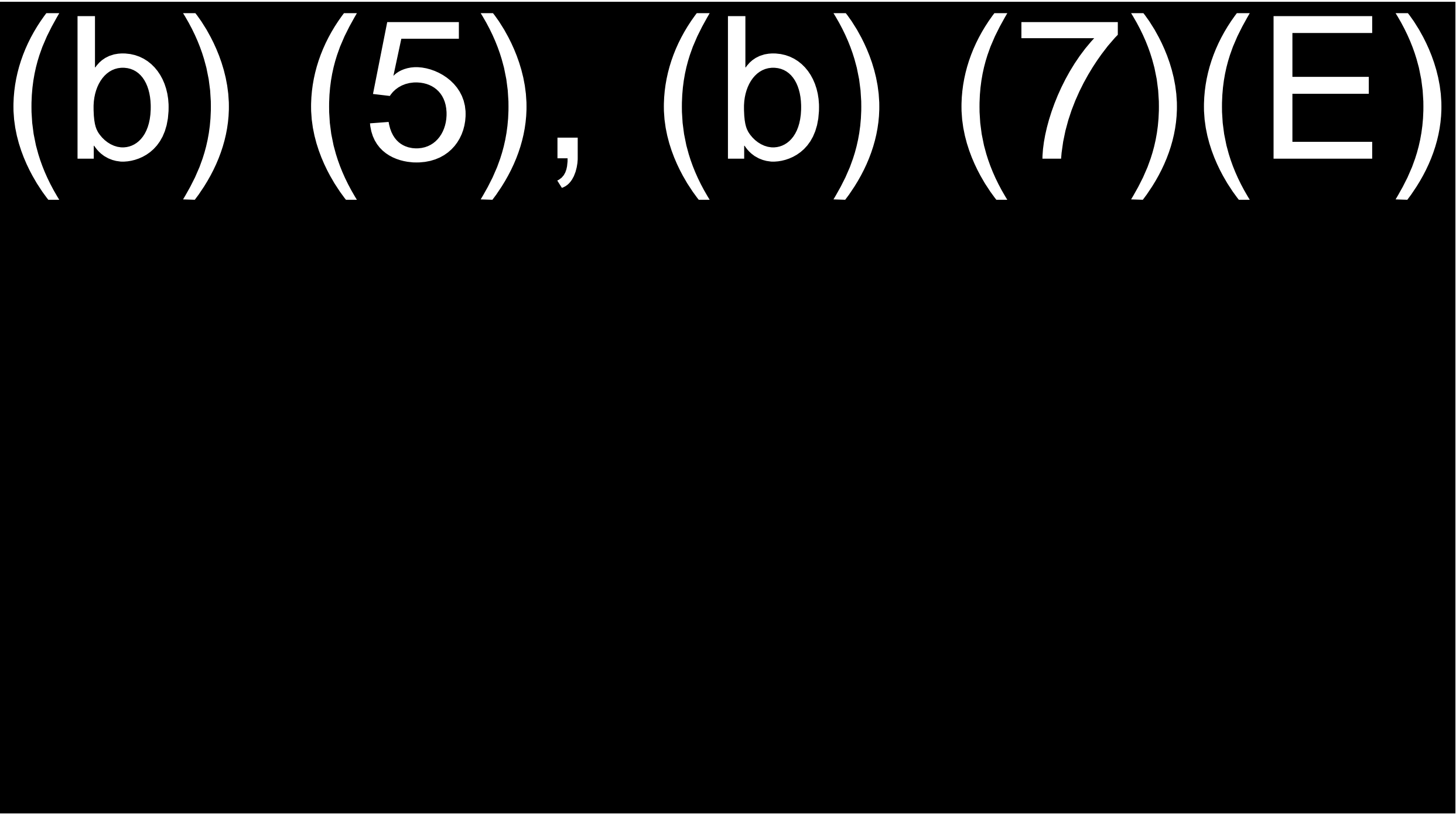
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

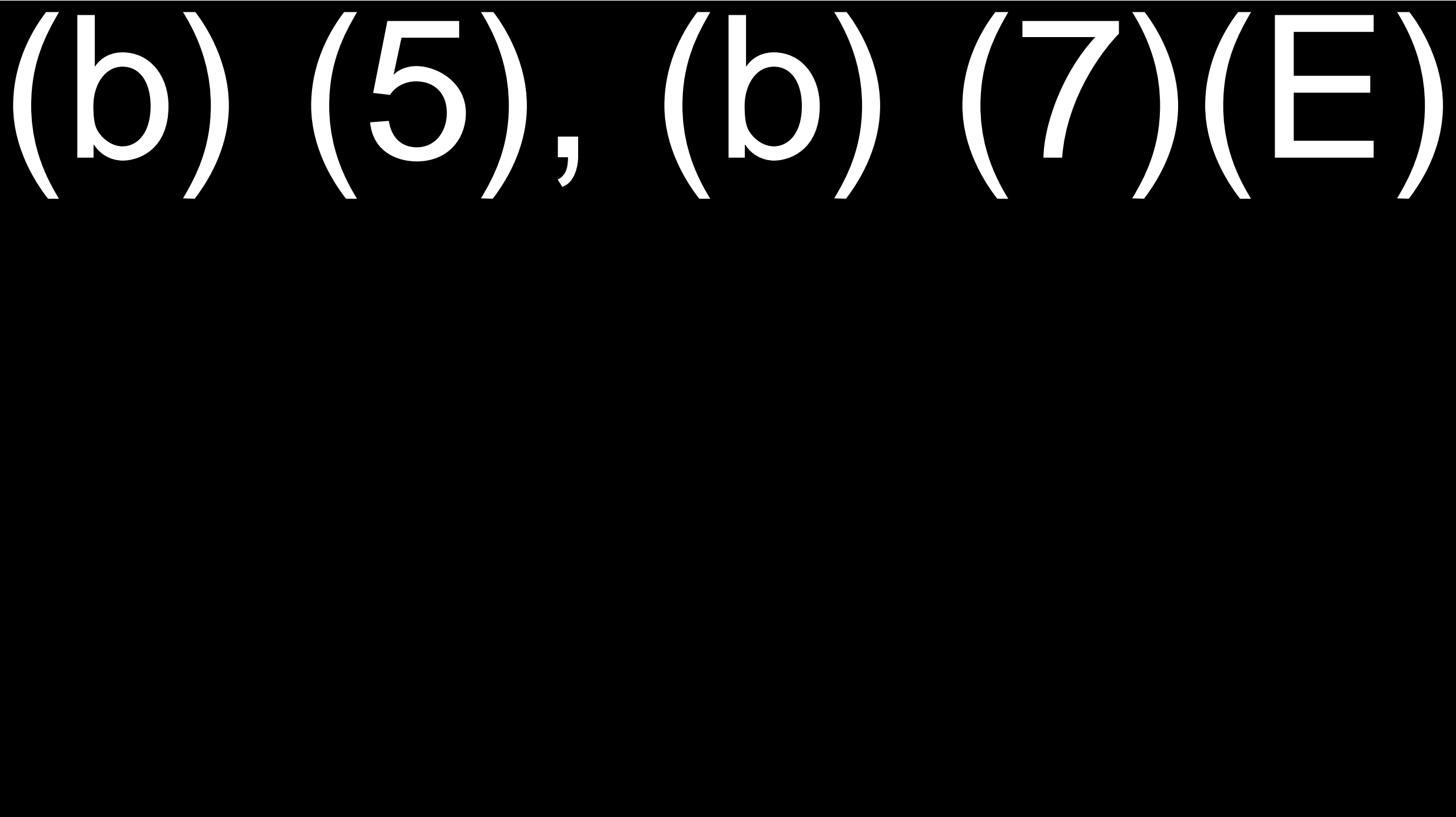
(b) (5), (b) (7)(E)



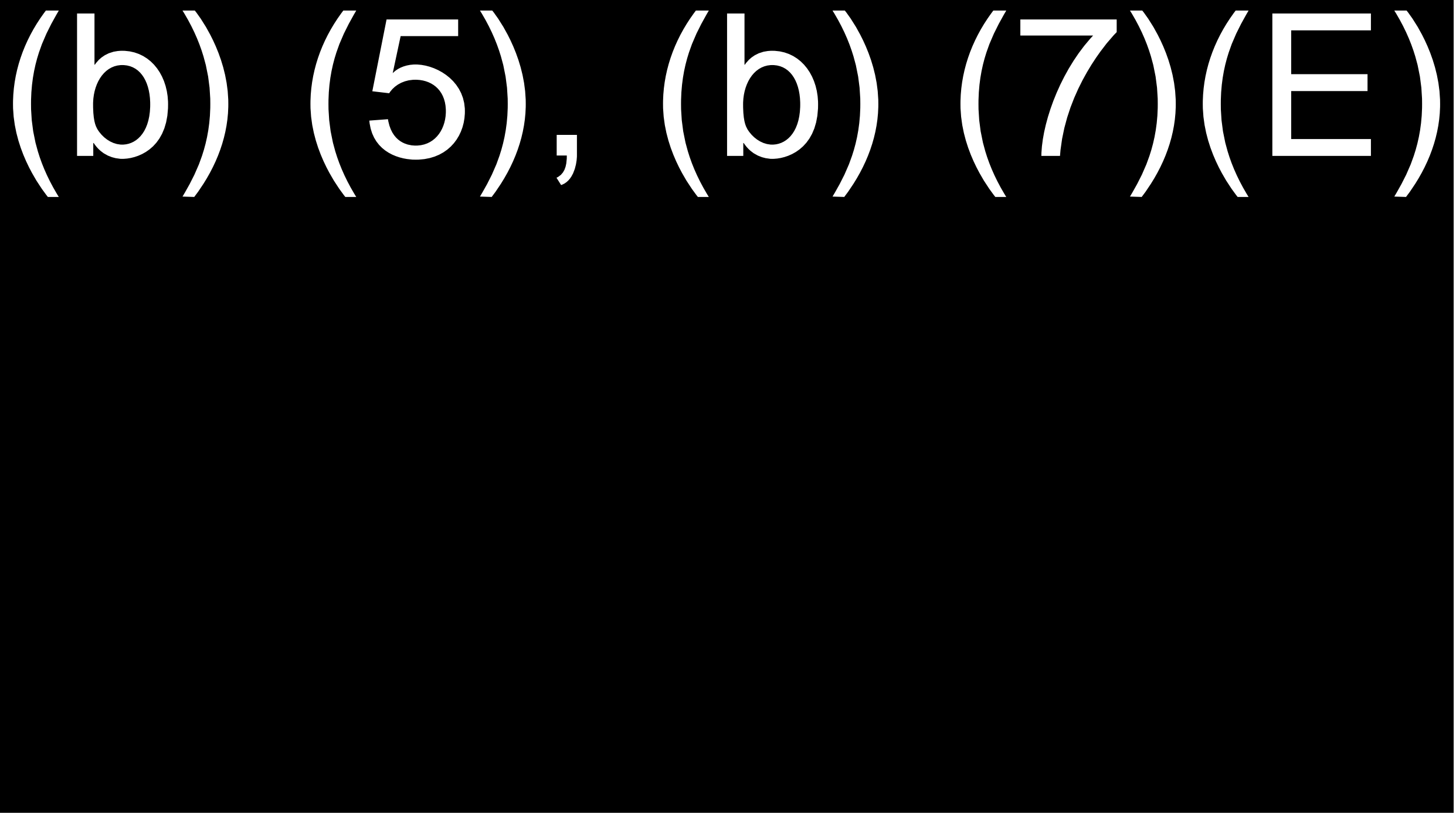
(b) (5), (b) (7)(E)



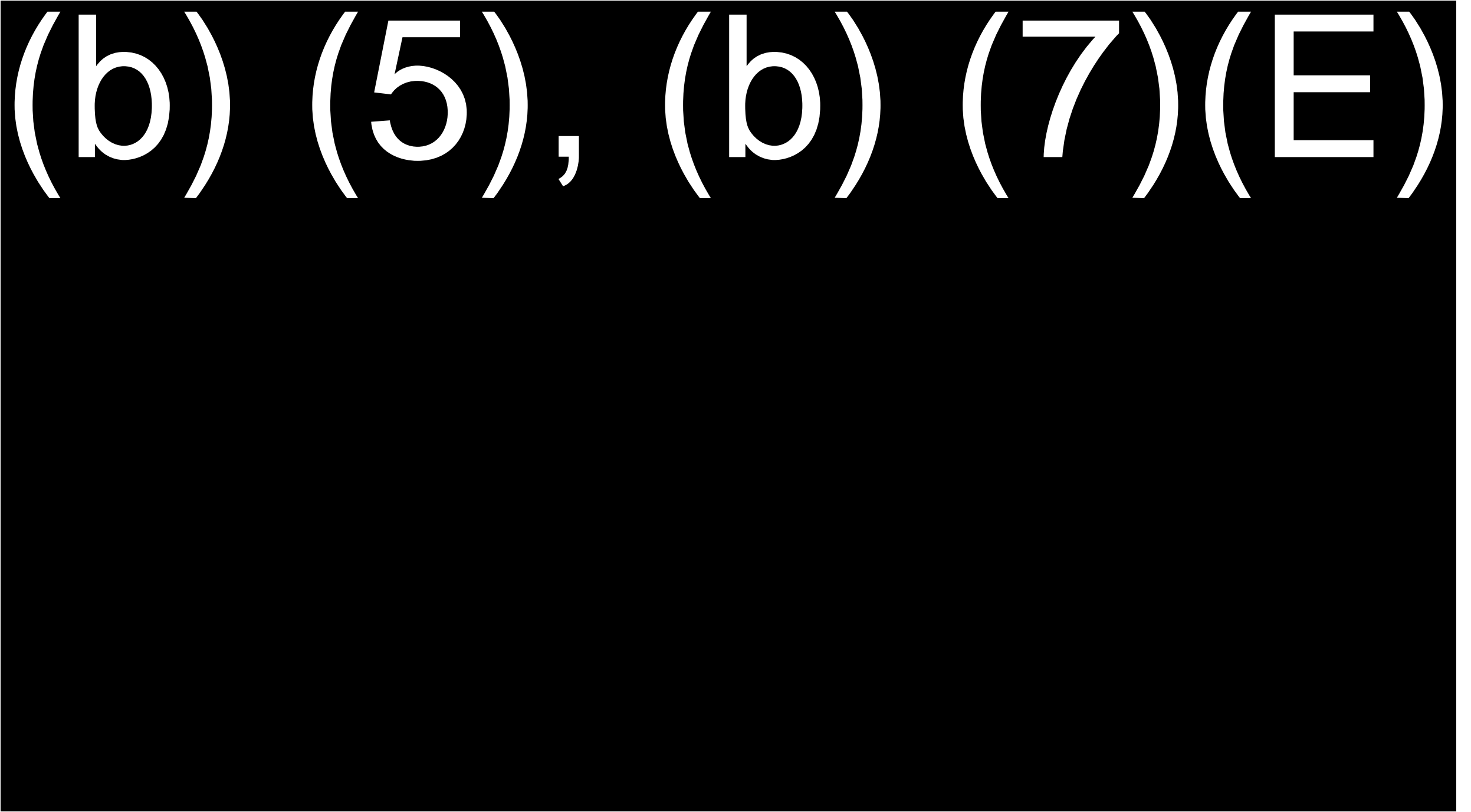
(b) (5), (b) (7)(E)



(b) (5), (b) (7)(E)

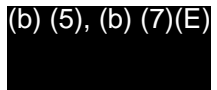


(b) (5), (b) (7)(E)



(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E)

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USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
EL CENTRO SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
EL PASO SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority
(b) (5), (b) (7)(E)											

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
HOULTON SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

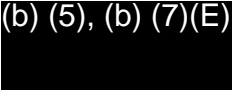
(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E)

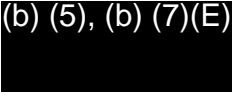
(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
IAREDO SECTOR											
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority
(b) (5), (b) (7)(E)											

(b) (5), (b) (7)(E)

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(b) (5), (b) (7)(E)

A large black rectangular redaction box covers the majority of the page content below the text "(b) (5), (b) (7)(E)".

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
RIO GRANDE VALLEY SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
SAN DIEGO SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

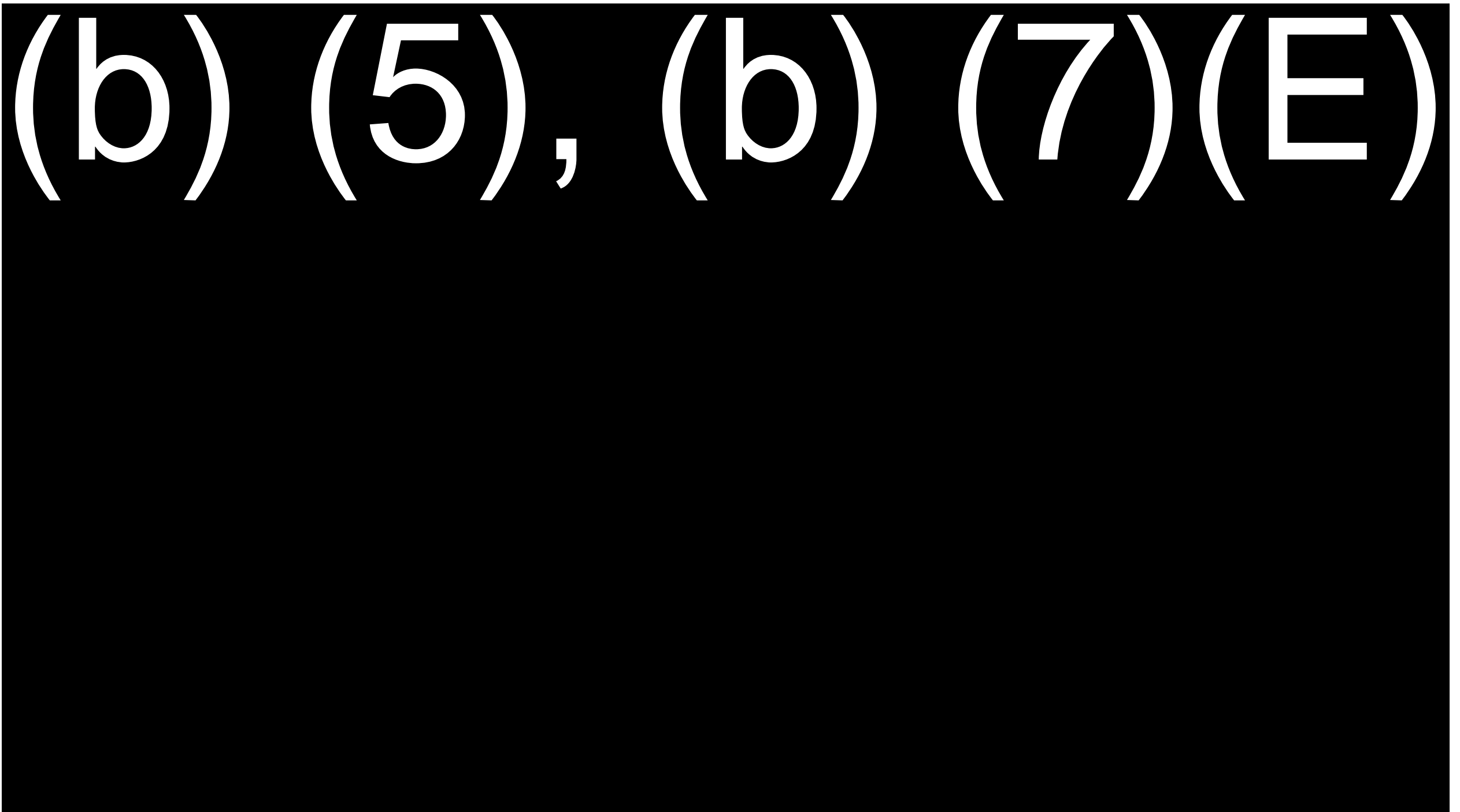
(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
SPOKANE SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E)



(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
SWANTON SECTOR											
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority
(b) (5), (b) (7)(E)											

(b) (5), (b) (7)(E)

USBP - Tucson Sector Specific Infrastructure Operational Prioritization (by miles)											
TUSCON SECTOR											
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority
(b) (5), (b) (7)(E)											

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
YUMA SECTOR											
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority
(b) (5), (b) (7)(E)											

TI Drill – Prioritization and Project COAs

~~FOUO LES~~

Purpose:

Task 1

- Determine project priority locations at the station level, across priority sectors
- Document prioritization process

Task 2

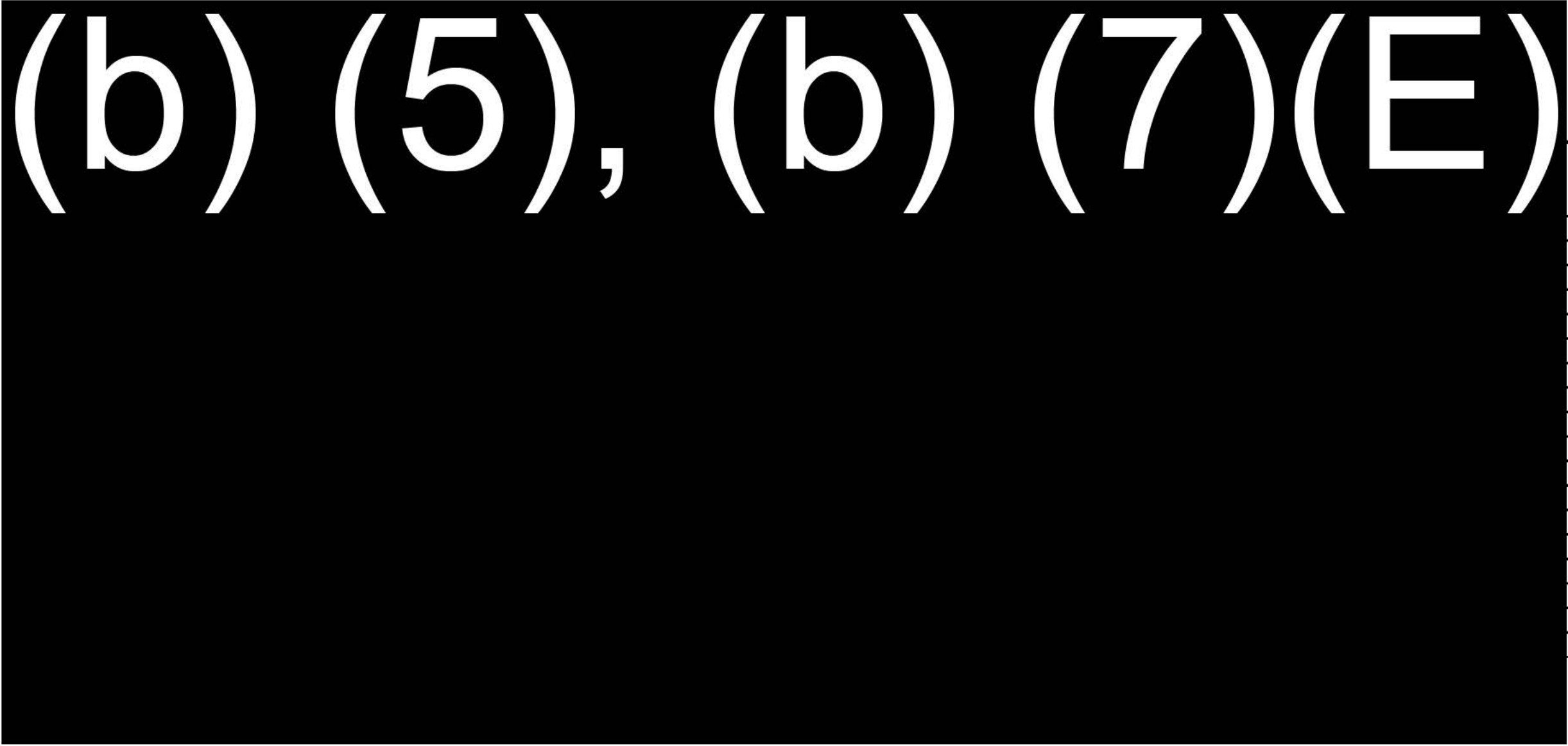
- Review “Unconstrained” TI list to ensure they are actionable
 - Three buckets
 - Bucket 1 – Replacement Fence
 - Bucket 2 – Operationally Achievable with TI
 - Bucket 3 – Operational Achievable with TI or other assets
- Document criteria for removal

Task 3

- Develop 2 to 3 COAs for Program Specific Deployments

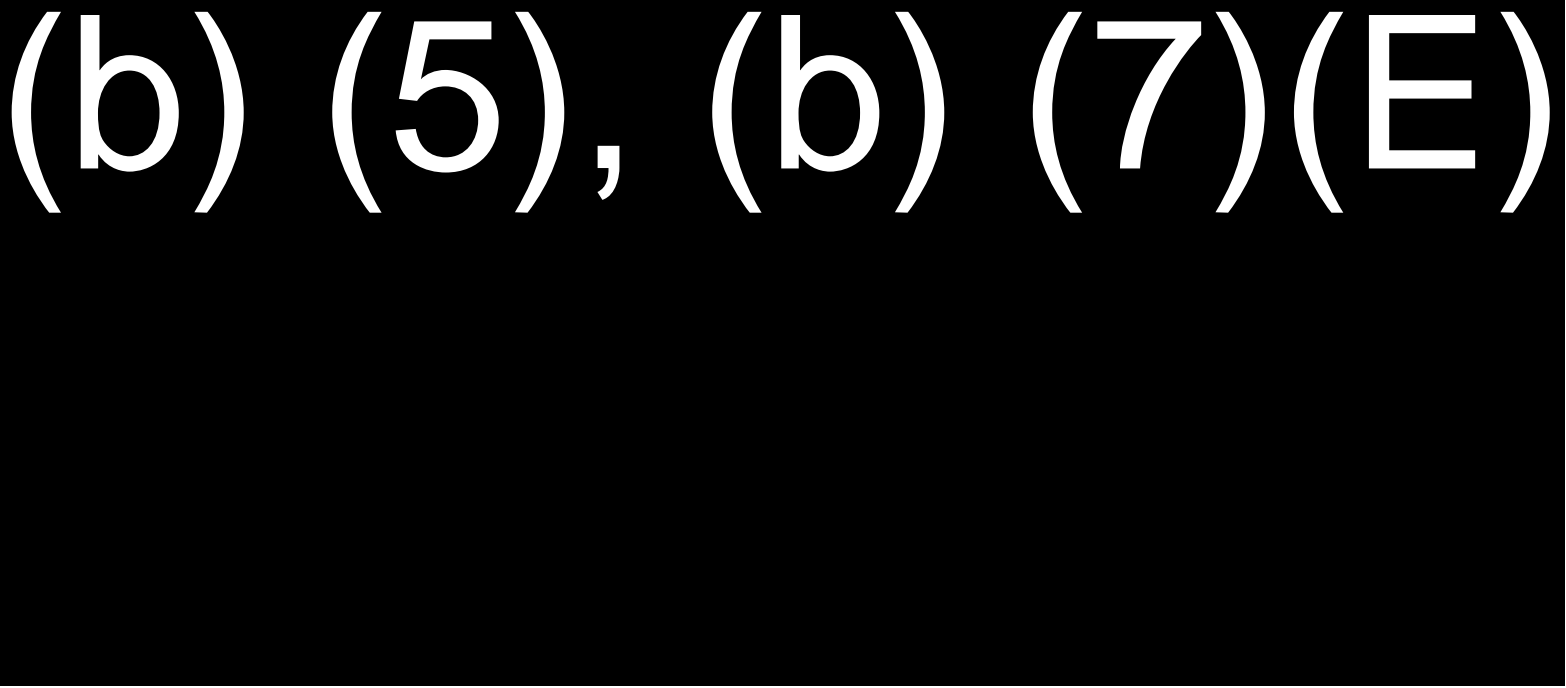
COA 1: Sector Prioritization Process for Fence

(b) (5), (b) (7)(E)



COA 1 Description

(b) (5), (b) (7)(E)



COA 1 Stations – Priority Stations based on Requirements Process, with completed IRD

RGV	LRT	DRT	BBT	EPT	TCA	YUM	ELC	SDC
(b) (7)(E), (b) (5)								

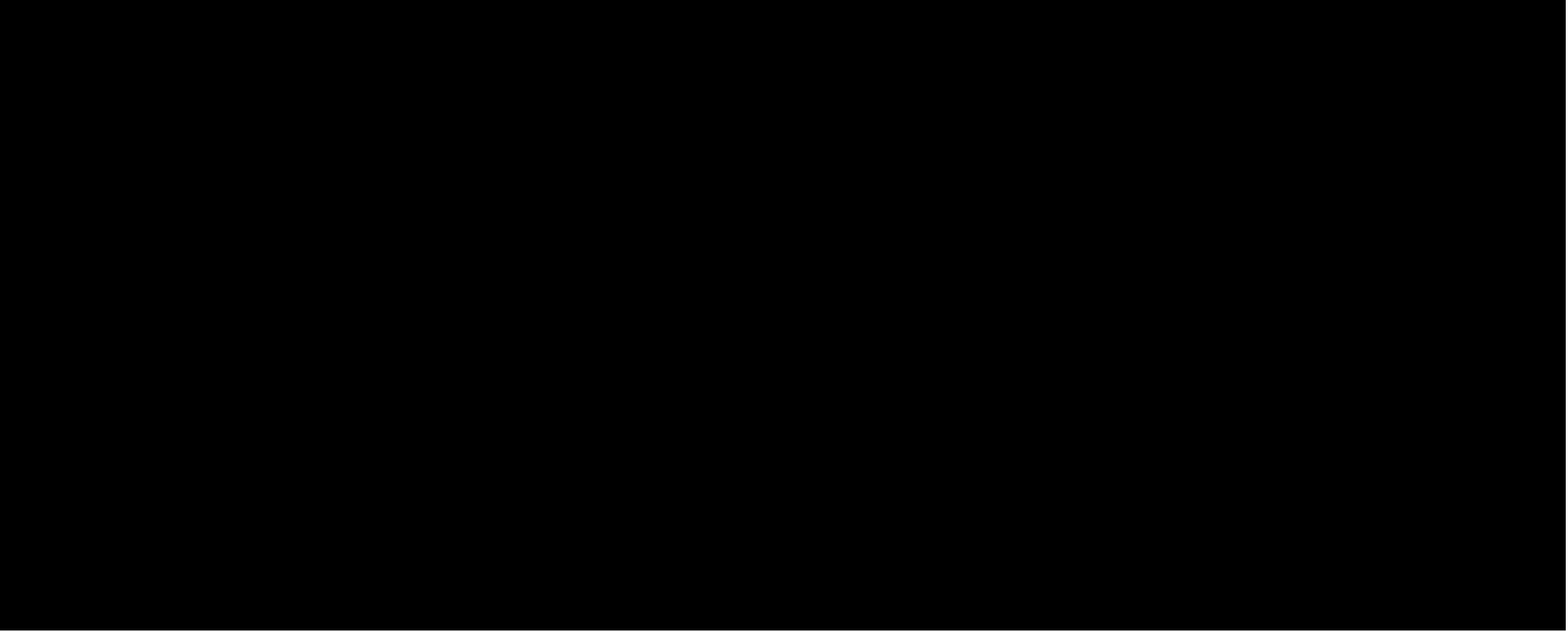
Stations are not prioritized and based on 2016 Initial Requirements Documents (IRDs) with TI COAs

COA 1 - Projects

RGV	LRT	DRT	BBT	TCA	EPT
(b) (7)(E), (b) (5)					

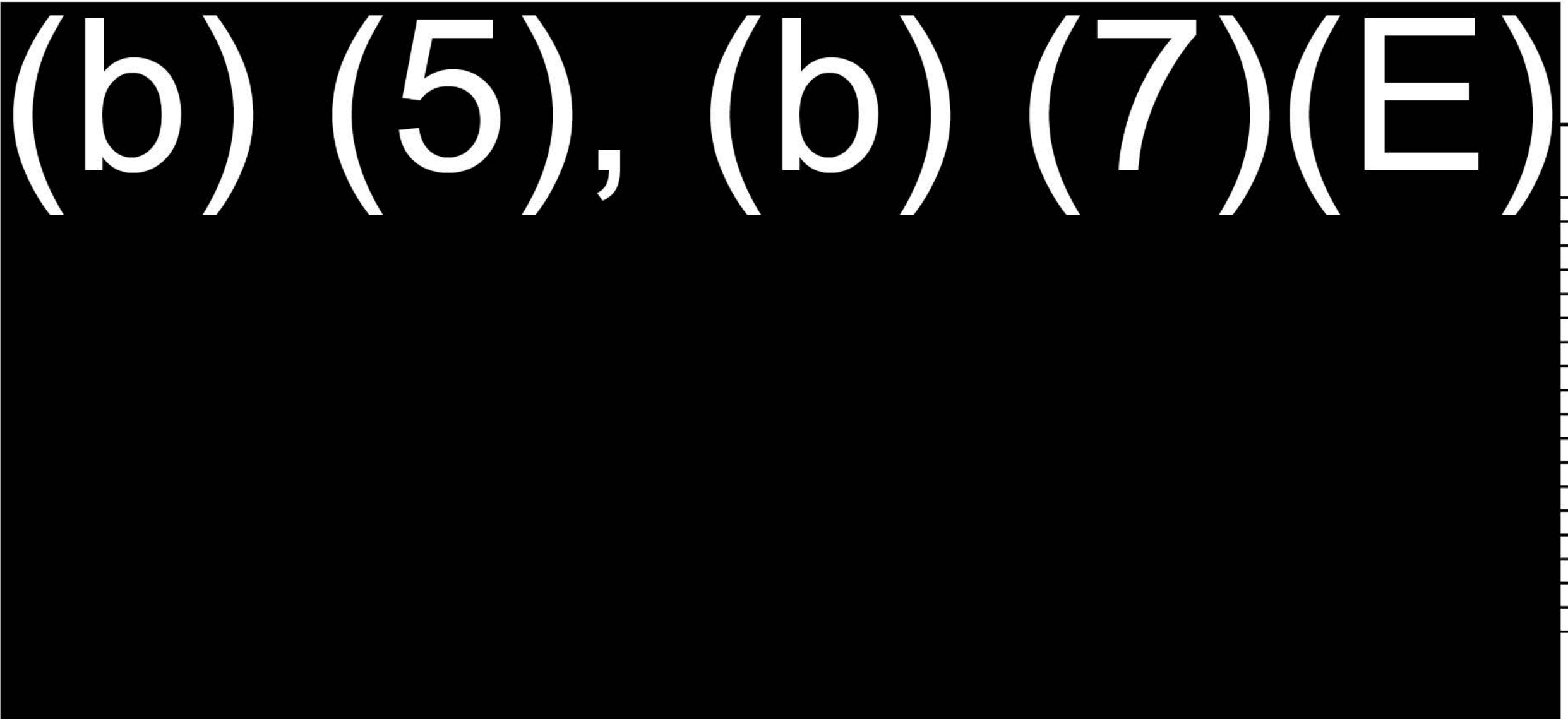
(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E), (b)(6);(b)(7)(C)



COA 2: Sector Prioritization Process for Fence

(b) (5), (b) (7)(E)



COA 2

(b) (5), (b) (7)(E)

COA 2 – Northern and Southern

(b) (5), (b) (7)(E)

COA 2 - Projects

(b) (5), (b) (7)(E)

Place Holder for Project Details

Lowest IER Stations - 2017

USBP Southwest Border Interdiction Effectiveness Rate*
FY2016
Apprehension Data includes Deportable Aliens Only
Data Source: (b) (7)(E)
(b) (7)(E) - Unofficial data as of 10/12/2016

TOP 10 STATIONS WITH LOWEST IER IN FY2016
(Note: Results based solely on IER percentage, not volume of total entries)

Location	APPs in AOR	Gotaways	Turnbacks	Total Entries	IER*
(b) (7)(E)					

TOP 10 STATIONS WITH LOWEST IER IN FY2016
(Note: Results based on stations relatively close to average total entries of (b) (7)(E) across all Southwest Border Stations, and also taking into account stations with an IER of less than (b) (7)(E)

Location	APPs in AOR	Gotaways	Turnbacks	Total Entries	IER*
(b) (7)(E)					

USBP Southwest Border Interdiction Effectiveness Rate*
FY2016

Apprehension Data includes Deportable Aliens Only

Data Source: (b) (7)(E)
(b) (7)(E) –Unofficial data as of 10/12/2016

TOP 10 STATIONS WITH LOWEST IER IN FY2016

(Note: Results based solely on IER percentage, not volume of total entries)

Location	APPs in AOR	Gotaways	Turnbacks	Total Entries	IER*
(b) (7)(E)					

TOP 10 STATIONS WITH LOWEST IER IN FY2016

(Note: Results based on stations relatively close to average total entries of (b) (7)(E) across all Southwest Border Stations, and also taking into account stations with an IER of less than (b) (7)(E))

Location	APPs in AOR	Gotaways	Turnbacks	Total Entries	IER*
(b) (7)(E)					

*The formula used to calculate the Interdiction Effectiveness Rate is:

(b) (7)(E)

~~WARNING: This document is designated FOR OFFICIAL USE ONLY (FOUO). It contains~~
~~in accordance with Department of Homeland Security policy relating to FOUO information, and~~
~~is not to be released to the public or personnel who do not have a valid "need to know" without~~
~~prior approval from designated Customs and Border Protection personnel.~~

UNCONSTRAINED

Row Labels	PF Primary	PF Replacement	PF Secondary	VF Primary	VF to PF	Grand Total
Big Bend	(b) (7)(E), (b) (5)					
Blaine						
Del Rio						
El Centro						
El Paso						
Havre						
Houlton						
Laredo						
Rio Grande Valley						
San Diego						
Spokane						
Swanton						
Tucson						
Yuma						
Grand Total						

To: USBP e (b) (6), (b) (7)(C) Attachment 13 of 21
(b) (6), (b) (7)(C)
Cc: (b) (6), (b) (7)(C)
From: (b) (6), (b) (7)(C)
Sent: Tue 1/30/2018 7:09:28 PM
Subject: RE: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review
[Fence Constrained 12-21-16.xlsx](#)
[USBP Fencing Course of Action \(FINAL\) Constrained Plus.pptx](#)
[UNCONSTRAINED.docx](#)

(b) (6), (b) (7)(C)

Document dated 12-21-16, use replacement fence tab

From the ppt deck, use slide 6, column 1. (12-29-16)

There is no change in replacement miles for the unconstrained but this is where the vehicle fence conversion was added. (1-10-17)

You are correct in your summary below. Gathered priorities from field and then LEOD prioritized.

(b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

LEOD-Liaison

U. S. Border Patrol

Desk (b) (6), (b) (7)(C)

Cell (b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)

Sent: Tuesday, January 30, 2018 1:42 PM

To: (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

Cc: (b) (6), (b) (7)(C)

Subject: RE: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review

Thank you. Whatever you have would work. If you can give me a general area in the files, I can look as well.

(b) (5)

Thanks,

(b) (6), (b) (7)(C)

Assistant Chief

ORMD

(b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)

Sent: Tuesday, January 30, 2018 1:11 PM

To: (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

Cc: (b) (6), (b) (7)(C)

Subject: RE: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review

(b) (6), (b) (7)(C)

BW23 FOIA CBP 017707

This was low tech (compared to what CBP is doing now). USBP GIS had the miles of legacy fence and the sectors generated CORE Cards. The requirements lived on a spreadsheet at HQ. I will look in the files.

(b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)

Sent: Tuesday, January 30, 2018 12:59 PM

To: (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

Cc: (b) (6), (b) (7)(C)

Subject: RE: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review

(b) (6), (b) (7)(C)

Thank you. We are all set regarding the prototypes. What we need is the documentation to the process you described below.

(b) (5)

BLUF: GAO wants to know what our documented methodology was prior to the tool, for prioritizing and selecting locations for projects and wall replacement. They asked for the documentation that led to the FY 17 replacement projects and RGV Gates.

Thank you,

(b) (6), (b) (7)(C)

Assistant Chief

ORMD

(b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)

Sent: Tuesday, January 30, 2018 12:54 PM

To: (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

Cc: (b) (6), (b) (7)(C)

Subject: RE: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review

(b) (6), (b) (7)(C)

ayed response.

The replacement requirements originated with the remaining legacy primary fence (landing mat, wire mess, chain link) that were on the books prior to the change of administration. Those replacement requirements, for the most part, have CORE cards. So the answer is, the replacement fence requirements (original requirements) were by sector and prioritized by LEOD. Once the Wall program began, the replacement miles then included the conversion of vehicle barrier to pedestrian fence.

As for the wall prototype RFP, the USBP Wall team (which has now departed) was in charge of that effort. (b) (6), (b) (7)(C) probably has the latest copy of the requirements provided by that team.

(b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)

Sent: Tuesday, January 30, 2018 12:47 PM

To: (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

Cc: (b) (6), (b) (7)(C)

Subject: RE: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review

(b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)

Sent: Tuesday, January 30, 2018 10:39 AM

To: (b) (6), (b) (7)(C)

Cc: (b) (6), (b) (7)(C)

Subject: FW: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review

(b) (6), (b) (7)(C)

Good morning. Do you know how our list of requirements were passed on to OFAM previously as (b) (6), (b) (7)(C) stated to GAO yesterday?

(b) (5)

Any information you can provided would be appreciated.

Regards,

(b) (6), (b) (7)(C)

Assistant Chief

ORMD

(b) (6), (b) (7)(C)

From: USBP-AUDIT-TEAM

Sent: Tuesday, January 30, 2018 10:30 AM

To: (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

Cc: USBP-AUDIT-TEAM (b) (7)(E)

Subject: RFI - DUE 2/13/18 - 102336-GAO Southwest Border Wall review

Good morning ORMD:

During yesterday's meeting the GAO is requesting the below two items:

(b) (5)

Please provide requested items NLT February 13, 2018. Please ensure all items are marked appropriately (PreD FOUO, FOUO/LES, etc.).

Thank you and please let us know if you have any questions or concerns.

Do have a terrific Tuesday.

(b) (6), (b) (7)(C)

Management and Program Analyst

Analysis Division - Audits

Strategic Planning and Analysis Directorate

U.S. Border Patrol

1300 Pennsylvania Avenue, NW, Suite (b) (6), (b) (7)(C)

Washington, D.C. 20229

Office - (b) (6), (b) (7)(C)

BW23 FOIA CBP 017709

TOTAL	(b) (7)(E), (b) (5)
NEW	
REPLACEMENT	
TOTAL	

Sector	Station	Zone	Description	Miles	Cost	CORE CARD	
RGV	(b) (7)(E), (b) (5)						
RGV							
SDC							
SDC							
SDC							
SDC							
EPT							
TOTAL							

(b) (7)(E), (b) (5)

Total

(b) (7)(E), (b) (5)

UNCONSTRAINED

Row Labels	PF Primary	PF Replacement	PF Secondary	VF Primary	VF to PF	Grand Total
Big Bend	(b)	(7)	(E),	(b)	(5)	
Blaine						
Del Rio						
El Centro						
El Paso						
Havre						
Houlton						
Laredo						
Rio Grande Valley						
San Diego						
Spokane						
Swanton						
Tucson						
Yuma						
Grand Total						

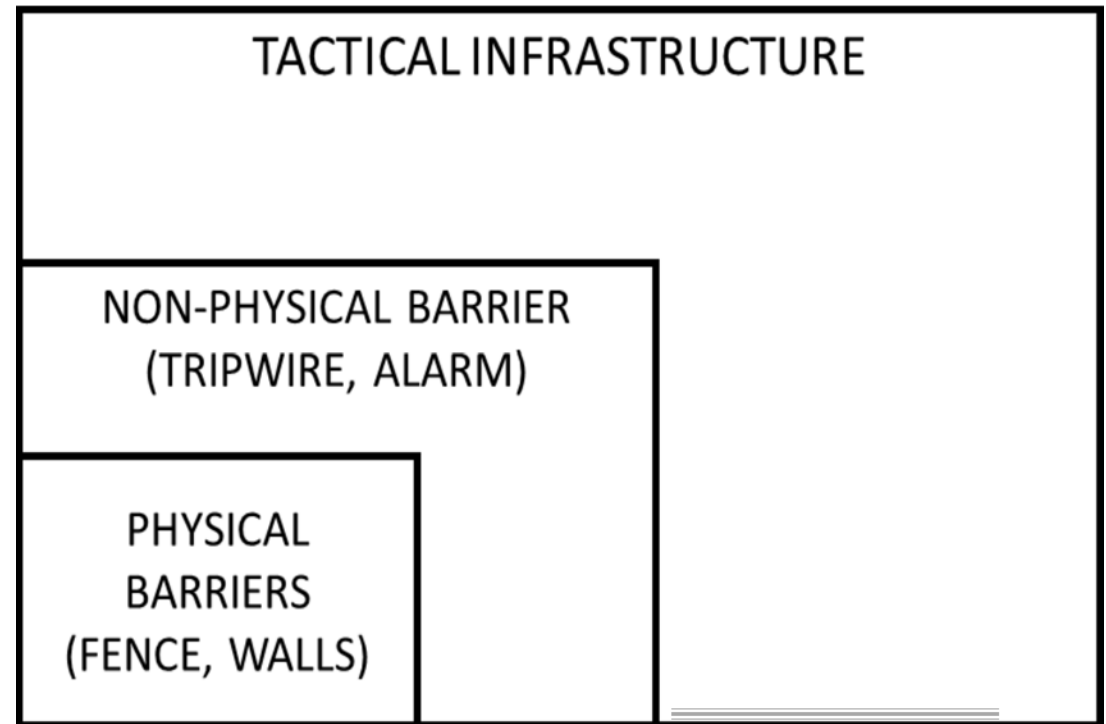
Recommended Initial USBP Fencing Course of Action

SPA/ORMD

November 21, 2016

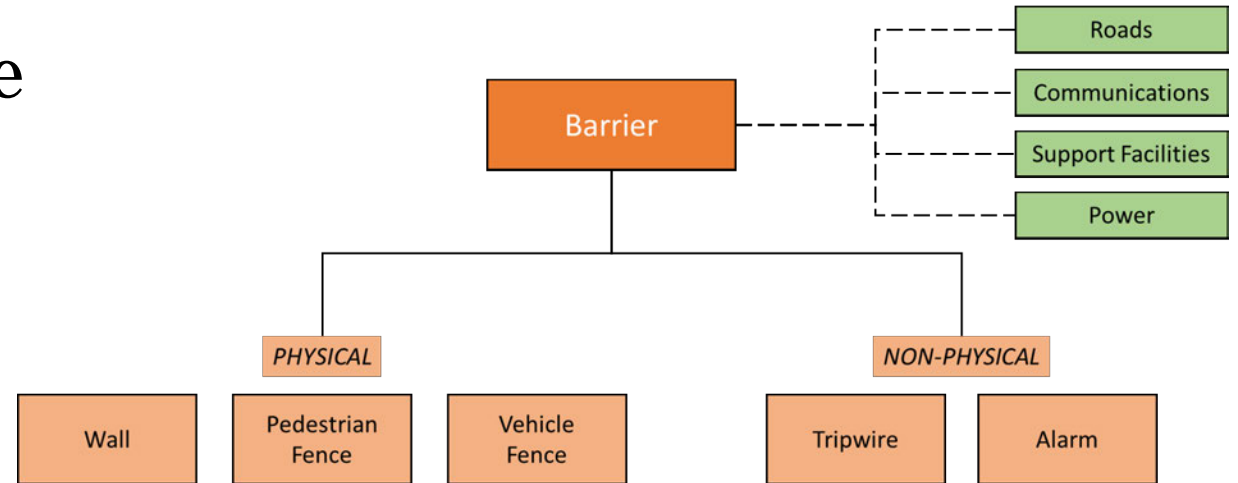
Fencing in Context

Barriers are one aspect of tactical infrastructure, which, in turn, is one pillar the total solution for U.S. Border Security. They will not, in and of themselves, provide full security. But they can represent an effective first line of defense, giving the Border Patrol time and information to act in securing our borders



Terms & Definitions

- A Physical Barrier is a permanent, man-made structure that prevents or impedes unlawful entry into the United States.
- A Non-Physical Barrier is a (generally) relocatable, electronically-based capability that alerts and informs USBP agents that a breach is, or has, occurred along the border.



Recommended Course of Action

COA Attributes

(b) (7)(E), (b) (5)

COA Description

(b) (5)

Tactical Infrastructure (Fencing)

How are we separating wants, needs and requirements?

Constrained by Process

- Validated Requirements
- Courses of Action Defined

(b) (7)(E), (b) (5)

- Specific
- Realistic
- Actionable
- Measureable
- Urgent

Constrained Plus (Recommended Initial COA)

- Validated Needs and Requirements
 - Linked to Requirements Process
- Additional Planning Required (Course of Action analysis)

(b) (7)(E), (b) (5)

- Specific
- Realistic
- Measureable
- Near- to Moderate-Term
- Waiver required

Un-Constrained/Conceptual

- Un-validated Needs (“Wants”)
- Concepts
- Long-Term Planning Required

(b) (7)(E), (b) (5)

- Conceptual
- Longer-Term
- Waiver required
- Condemnation needed

**** Deployments are prioritized based on ORMD investment priority locations. However, additional factors may also drive the order in which fencing is deployed (ex. real estate, ease of deployment, existing construction contracts)**

BACKUP SLIDES

Existing Fencing

(b) (7)(E)

Sector	Pedestrian Fence				Vehicle Fence
	Primary	Secondary	Tertiary	TOTAL PF	TOTAL VF
Big Bend (BBT)	4.6	0.0	0.0	4.6	0.2
Del Rio (DRT)	4.0	0.0	0.0	4.0	0.0
El Centro (ELC)	44.0	0.0	0.0	44.0	14.9
El Paso (EPT)	64.8	13.4	4.0	82.3	101.3
Laredo (LRT)	1.4	0.1	0.0	1.5	0.0
Rio Grande Valley (RGV)	54.9	0.0	0.0	54.9	0.0
San Diego (SDC)	45.9	13.6	2.0	61.4	0.4
Tucson (TCA)	71.8	0.8	0.0	72.6	139.4
Yuma (YUM)	62.9	9.0	8.3	80.2	43.8
TOTAL	354.2	36.9	14.4	405.5	299.9

Pedestrian Fence (Replacement)

Pedestrian Fence (PF225)

Pedestrian Fence (PF70)

Pedestrian Fence (Legacy)

Vehicle Fence (VF300)

Vehicle Fence (Legacy)

0

25

50

100

150

200

Miles

Culliacán

To: (b) (6), (b) (7)(C)
From: (b) (6), (b) (7)(C)
Sent: Thur 2/1/2018 5:34:46 PM
Subject: FW: Update on TI Prioritization Process
[Sector TI Operational Prioritization Rollup \(Draft\) .xlsx](#)
[TI Drill – Prioritization.pptx](#)

[More background](#)

(b) (6), (b) (7)(C)
Portfolio Management and Analysis Branch
Border Patrol and Air and Marine PMO
Mobile: (b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)
Sent: Friday, November 18, 2016 8:07 AM

To: (b) (6), (b) (7)(C)
Cc: (b) (6), (b) (7)(C)
(b) (6), (b) (7)(C)

Subject: RE: Update on TI Prioritization Process

(b) (6), (b) (7)(C)

(b) (7)(E)

(b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)
Sent: Friday, November 18, 2016 7:51 AM

To: (b) (6), (b) (7)(C)
Cc: (b) (6), (b) (7)(C)

Subject: FW: Update on TI Prioritization Process

(b) (6), (b) (7)(C) Thanks. Please keep me CCed on the correspondence, but (b) (6), (b) (7)(C) should work directly with (b) (6), (b) (7)(C) and his team, (b) (6), (b) (7)(C) and (b) (6), (b) (7)(C) primarily, as we continue to move on this. I'll still be involved, but I want to make sure the right people are talking directly.

Also, looking at the spreadsheet, I see the rollup of the priorities, which is great. Is the next step to take that color coding to each line in the Sector tabs? That's what is needed to make the maps happen for C2.

(b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)
Sent: Friday, November 18, 2016 7:03 AM

To: (b) (6), (b) (7)(C)
Cc: (b) (6), (b) (7)(C)

Subject: FW: Update on TI Prioritization Process

(b) (6), (b) (7)(C)

USBP email on TI Prioritization Process-FW: Update on TI Prioritization Process.msg <extracted> for Printed Item: 8 (Attachment 17 of 21)
Here is our updated work. We are still polishing options for LEOD (OPS) to consider, but we should be done with the options this morning.

(b) (6), (b) (7)(C) review of the 1000miles (yes its changed) is also attached.

(b) (6), (b) (7)(C) has the lead. I will be backing off and finishing up the COAs and then move on to the next fire.

(b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)

Sent: Thursday, November 17, 2016 7:26 PM

To: (b) (6), (b) (7)(C)
(b) (6), (b) (7)(C)

Cc: (b) (6), (b) (7)(C) SPPA Operational Requirements Management Branch
(b) (7)(E) LUCK, SCOTT A (USBP) (b) (6), (b) (7)(C);
PROVOST, CARLA (USBP) (b) (6), (b) (7)(C) HULL, AARON A (b) (6), (b) (7)(C)
SPPA Associates

(b) (7)(E)

Subject: Update on TI Prioritization Process

(b) (6), (b) (7)(C)

I believe you are on track and ORMD has done a great job. As you refine this presentation, I would suggest (b) (5)

(b) (6), (b) (7)(C) See below and attached.

Thank you (b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C)

Sent: Thursday, November 17, 2016 7:09 PM

To: (b) (6), (b) (7)(C)
Cc: (b) (6), (b) (7)(C)

Subject: Update on TI Prioritization Process

Chief,

For review, concurrence and forward. If we are on track, we will develop the COAs tomorrow, for review by the chain early next week. OFAM is also expecting this early in the AM.

Our current tasks and status:

1. Task - Review the unconstrained TI list for No/gos, and check back with the sector. 100% done

(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E)

The attached presentation answers number 2.

(b) (5), (b) (7)(E)

(b) (6), (b) (7)(C)

Assistant Chief

Headquarters, U.S. Border Patrol

Strategic Planning and Analysis Directorate

Operational Requirements Management Division

Desk (b) (6), (b) (7)(C)

Mobile: (b) (6), (b) (7)(C)

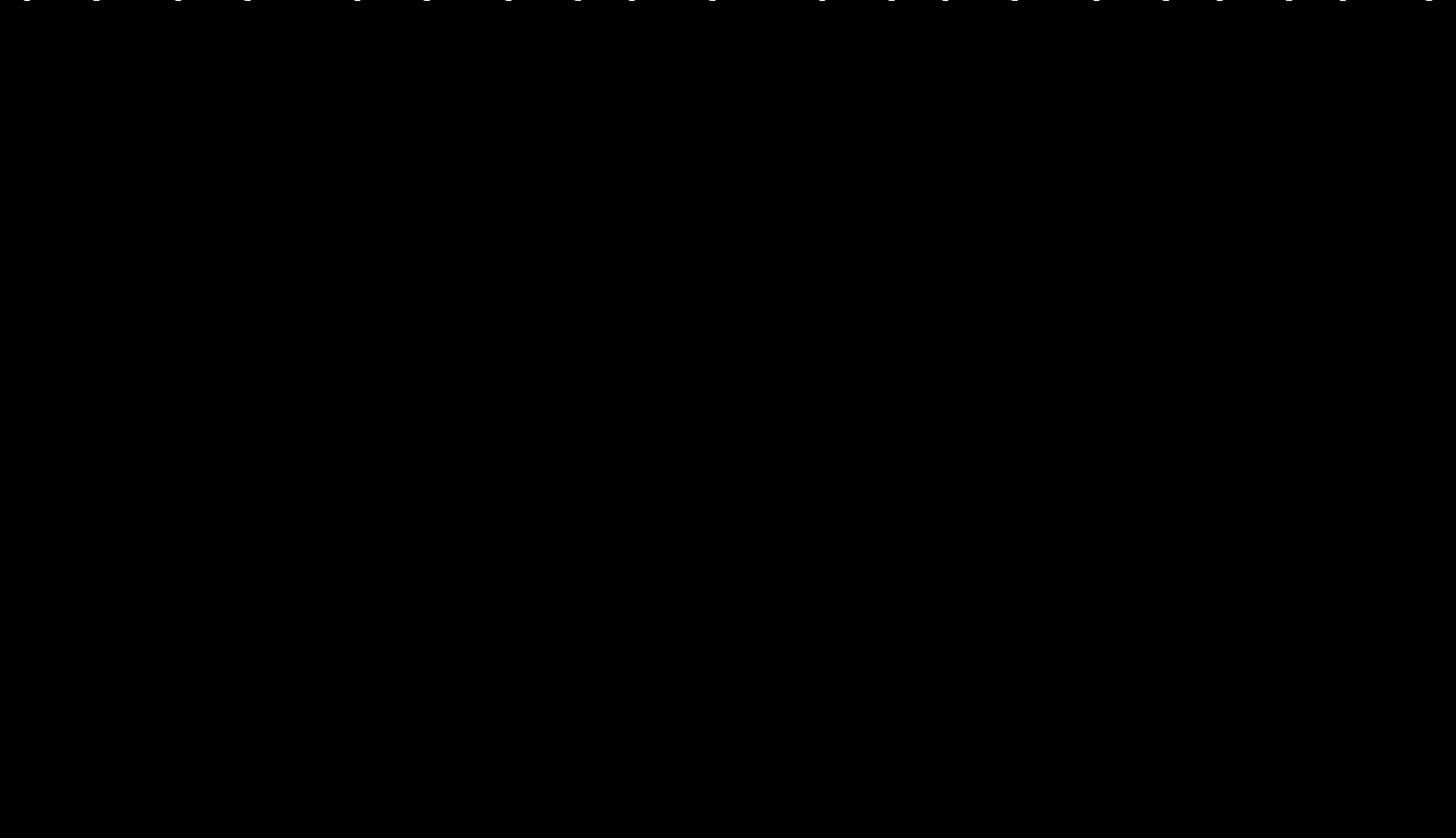
USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN									
XXXXX SECTOR									
Fill These with Miles									
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority

(b) (5), (b) (7)(E)

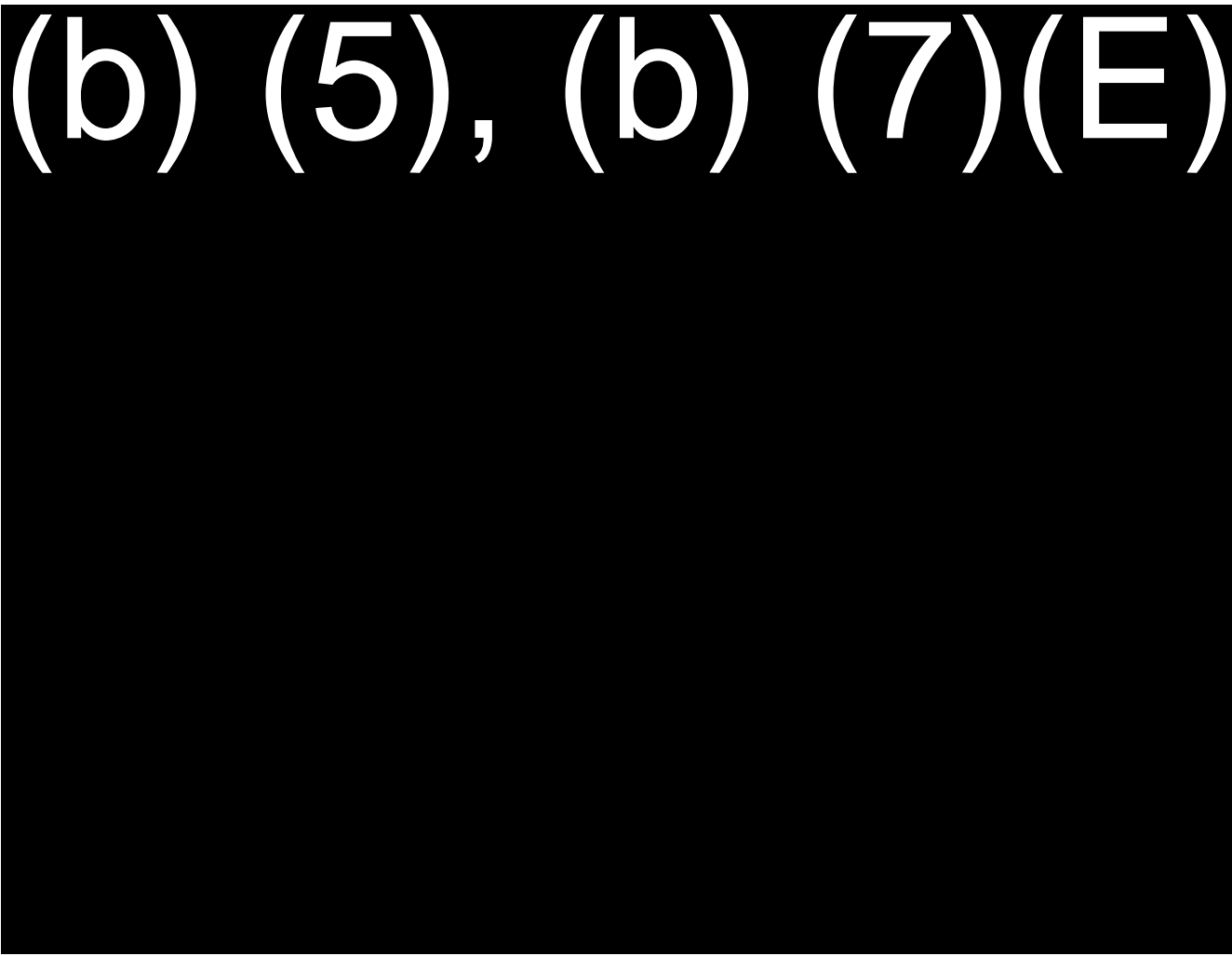
(b) (5), (b) (7)(E)

	Miles
Replacement Fence	(b) (5), (b) (7)(E)
Operationally achievable with TI	
Operationally Achievable with TI or other assets	
TOTAL	

(b) (5), (b) (7)(E), (b)(6);(b)(7)(C)



(b) (5), (b) (7)(E)



USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
BIG BEND SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
BLAINE SECTOR											
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority
(b) (5), (b) (7)(E)											

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN								
BUFFALO SECTOR								
Fill These with Miles								
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)
(b) (5), (b) (7)(E)								

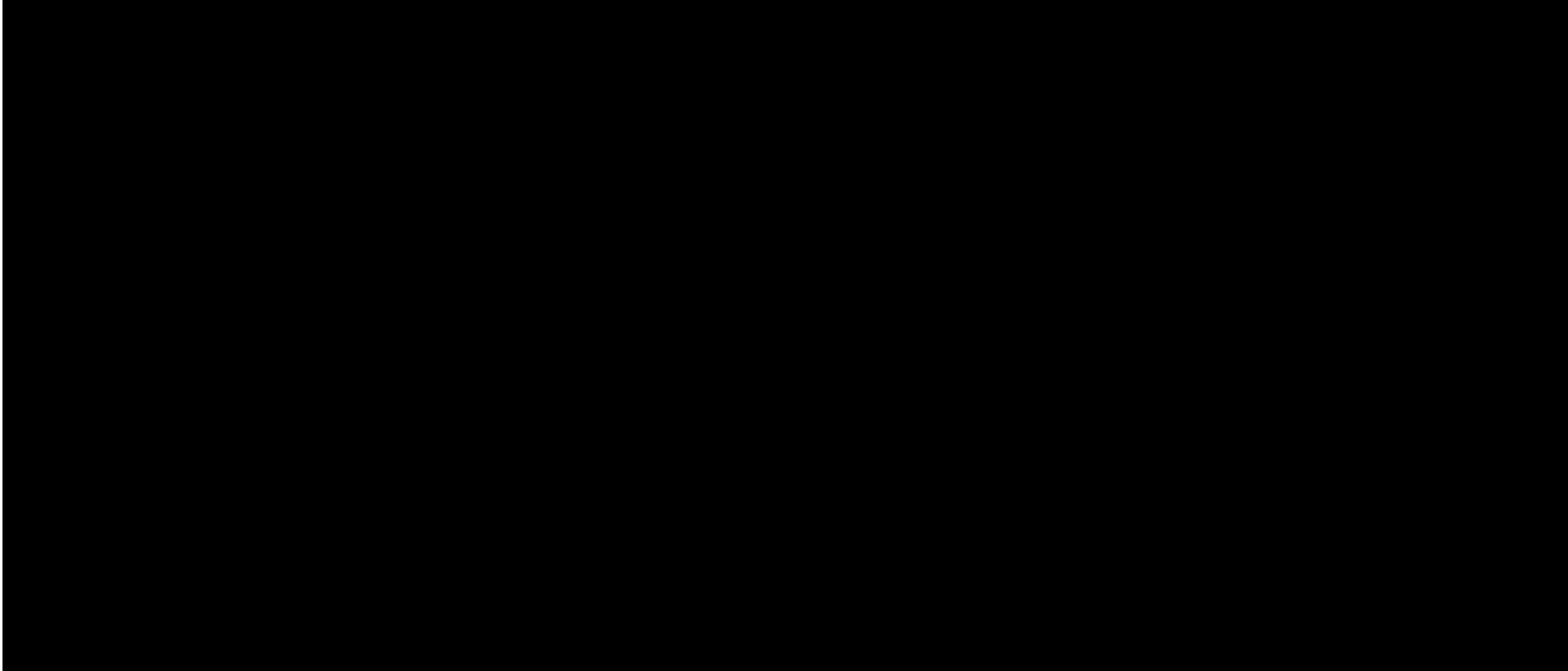
Sector Operational Priority	HQ Strategic Priority	Executability Priority
(b) (5), (b) (7)(E)		

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
DEL RIO SECTOR											

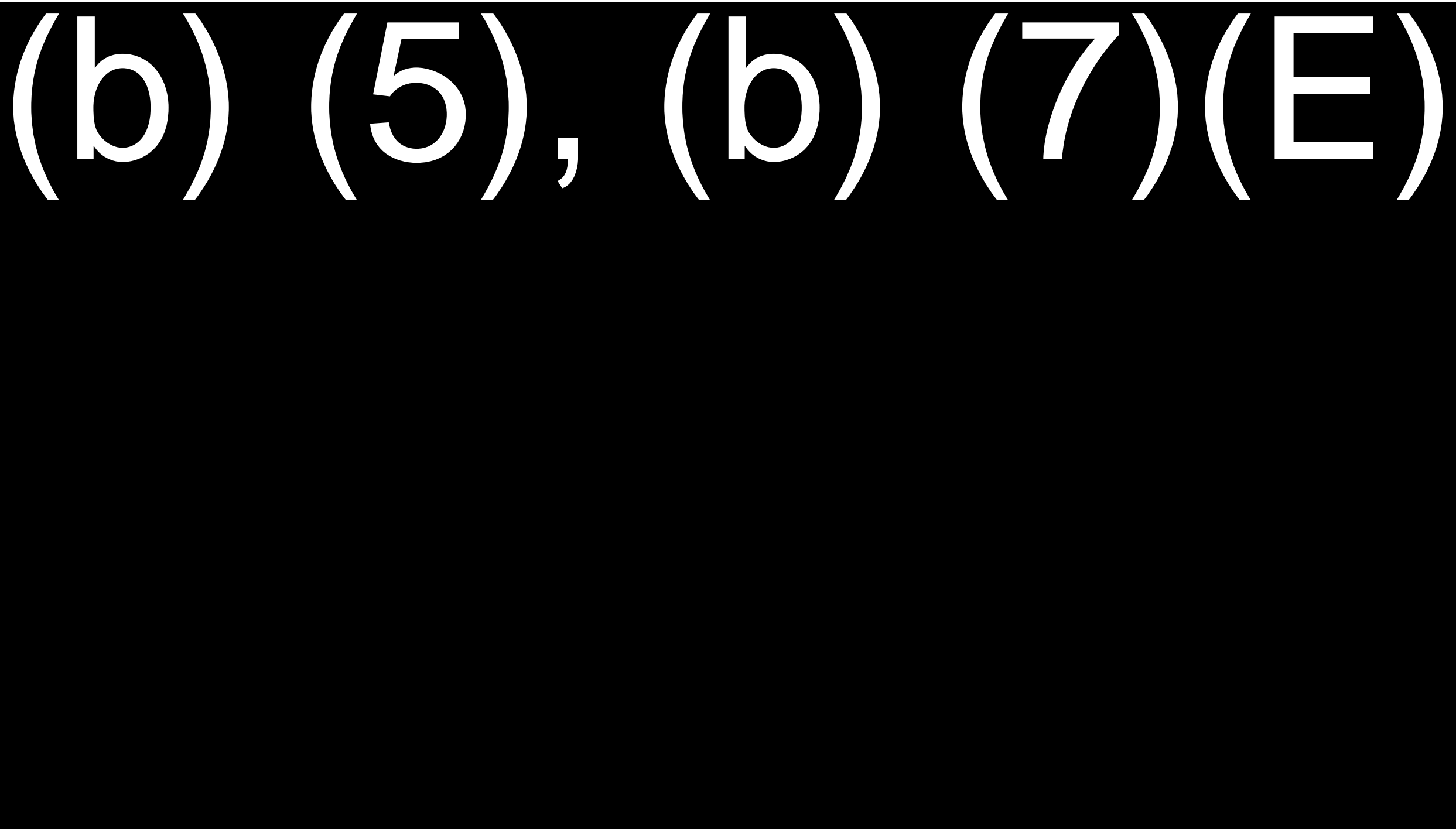
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

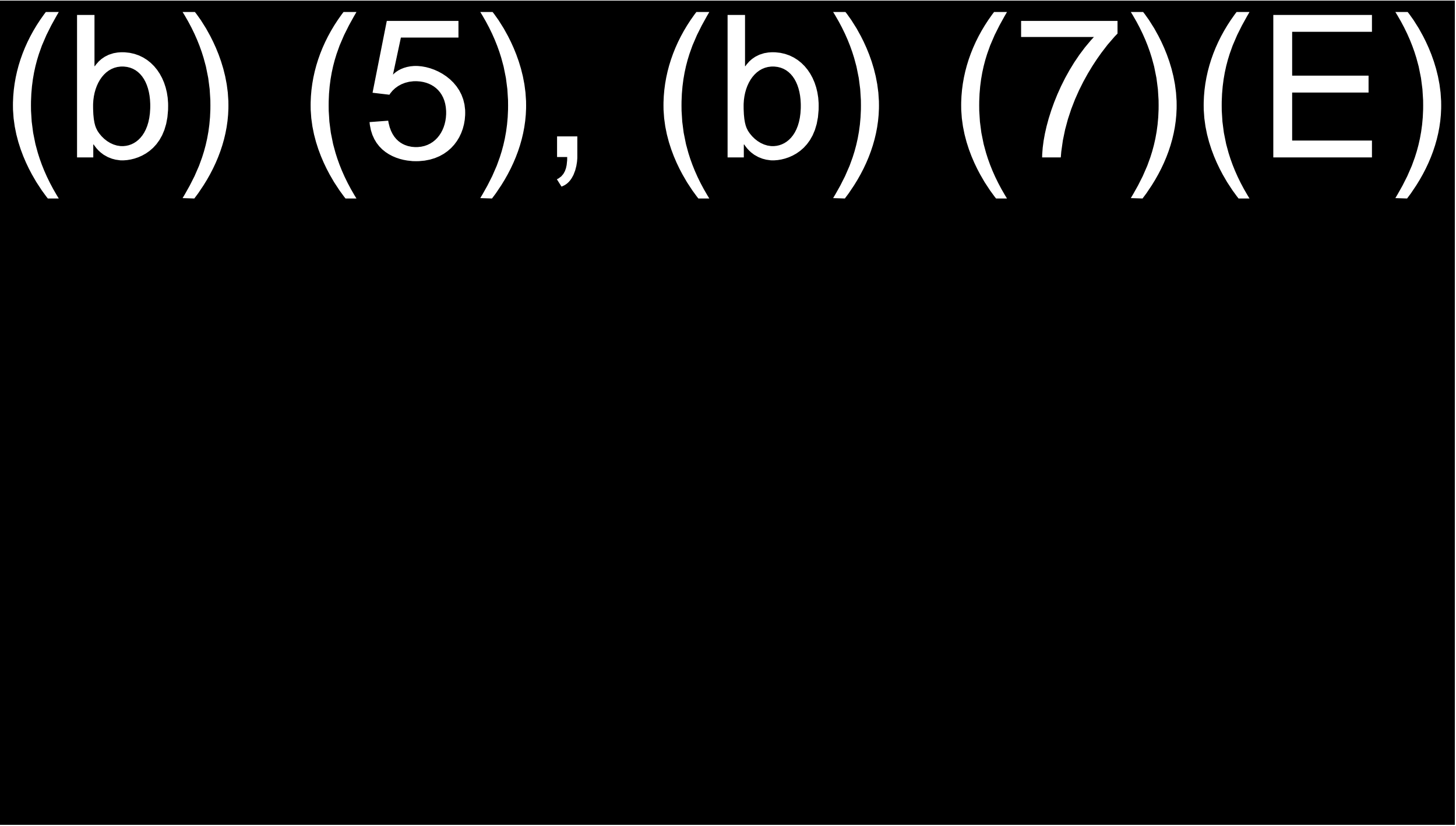
(b) (5), (b) (7)(E)



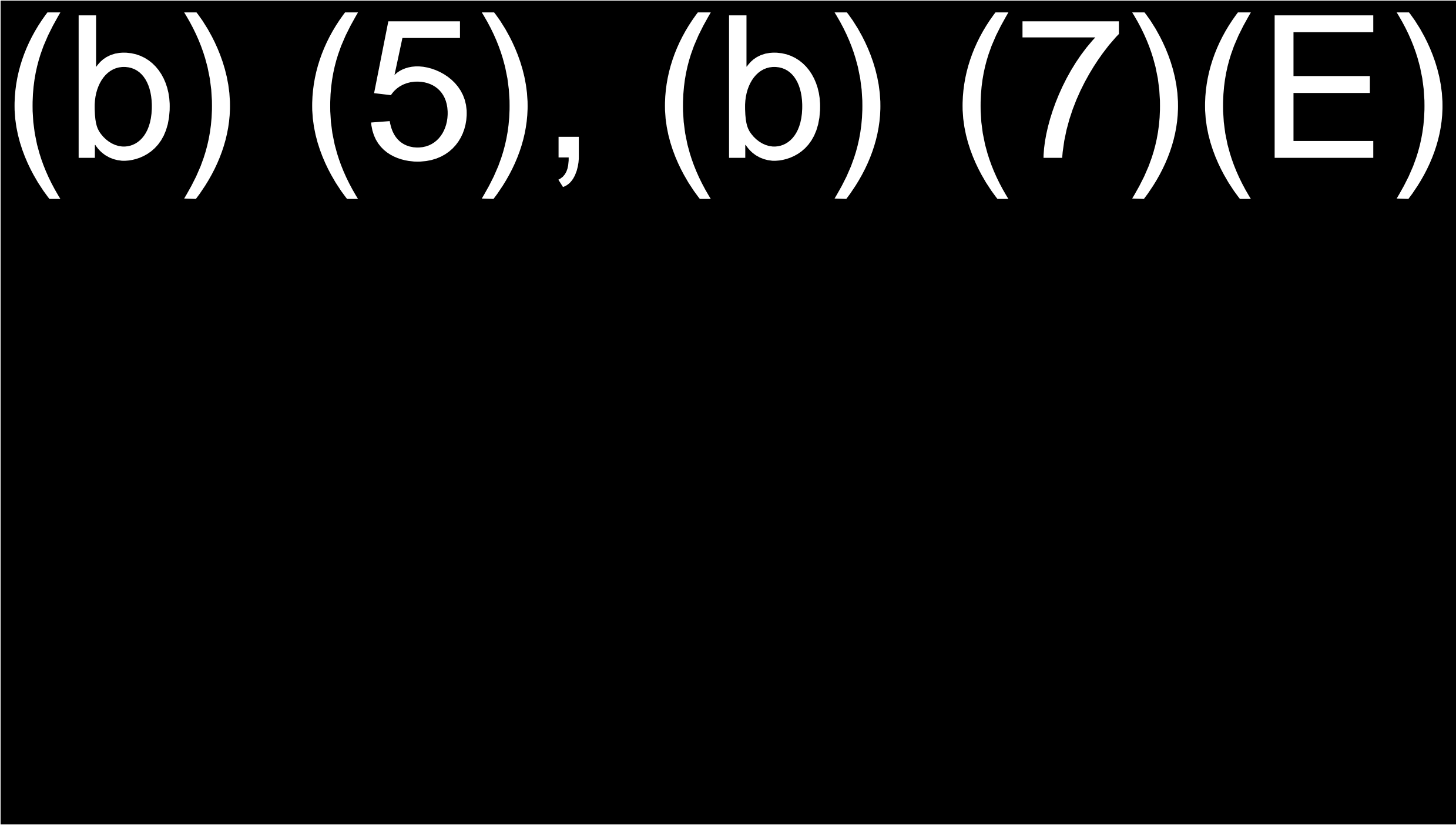
(b) (5), (b) (7)(E)



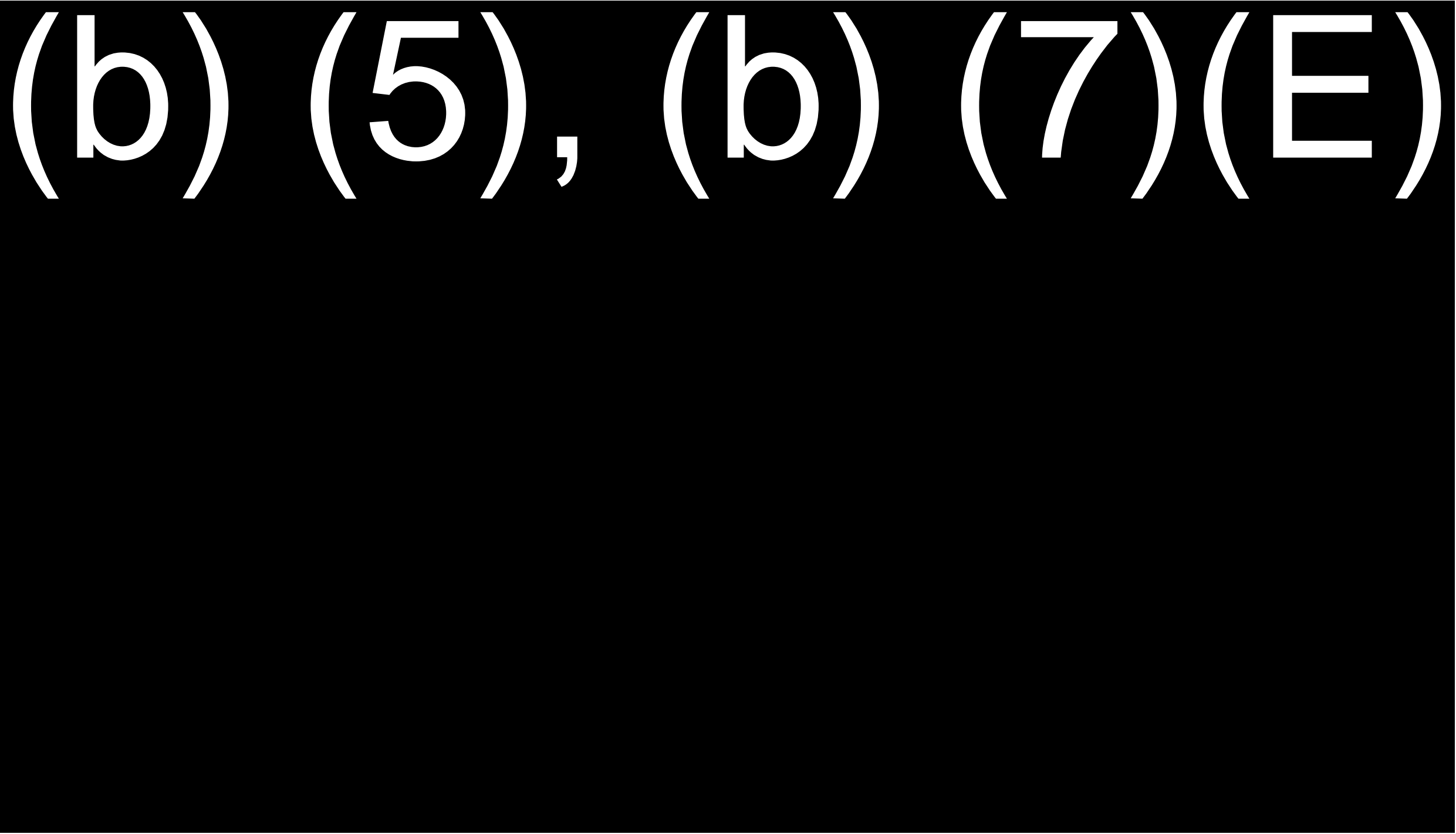
(b) (5), (b) (7)(E)



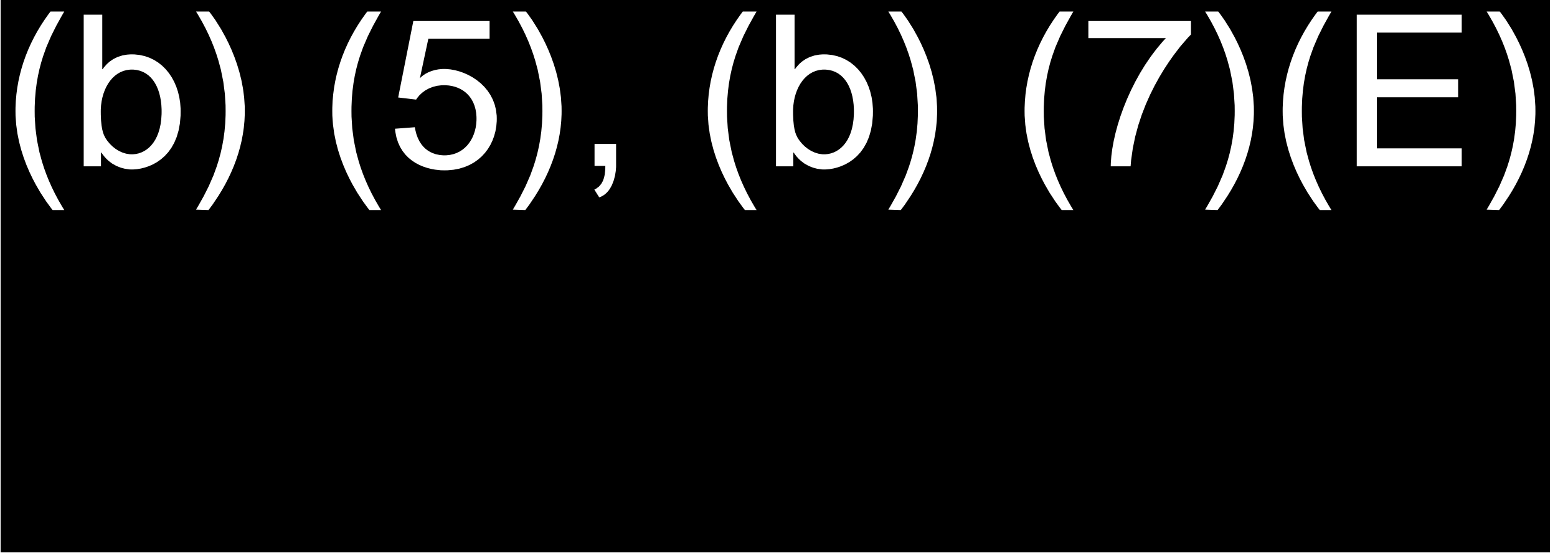
(b) (5), (b) (7)(E)



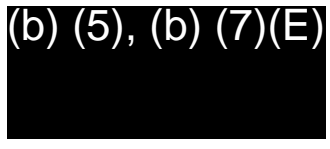
(b) (5), (b) (7)(E)



(b) (5), (b) (7)(E)



(b) (5), (b) (7)(E)



USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
EL CENTRO SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
EL PASO SECTOR											
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
HOULTON SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
HAVRE SECTOR											


Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

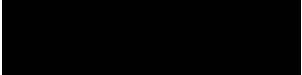
(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
IAREDO SECTOR											
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority
(b) (5), (b) (7)(E)											

(b) (5), (b) (7)(E)



(b) (5), (b) (7)(E)




USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN										
RIO GRANDE VALLEY SECTOR										

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E)



USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
SAN DIEGO SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Descrintion (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

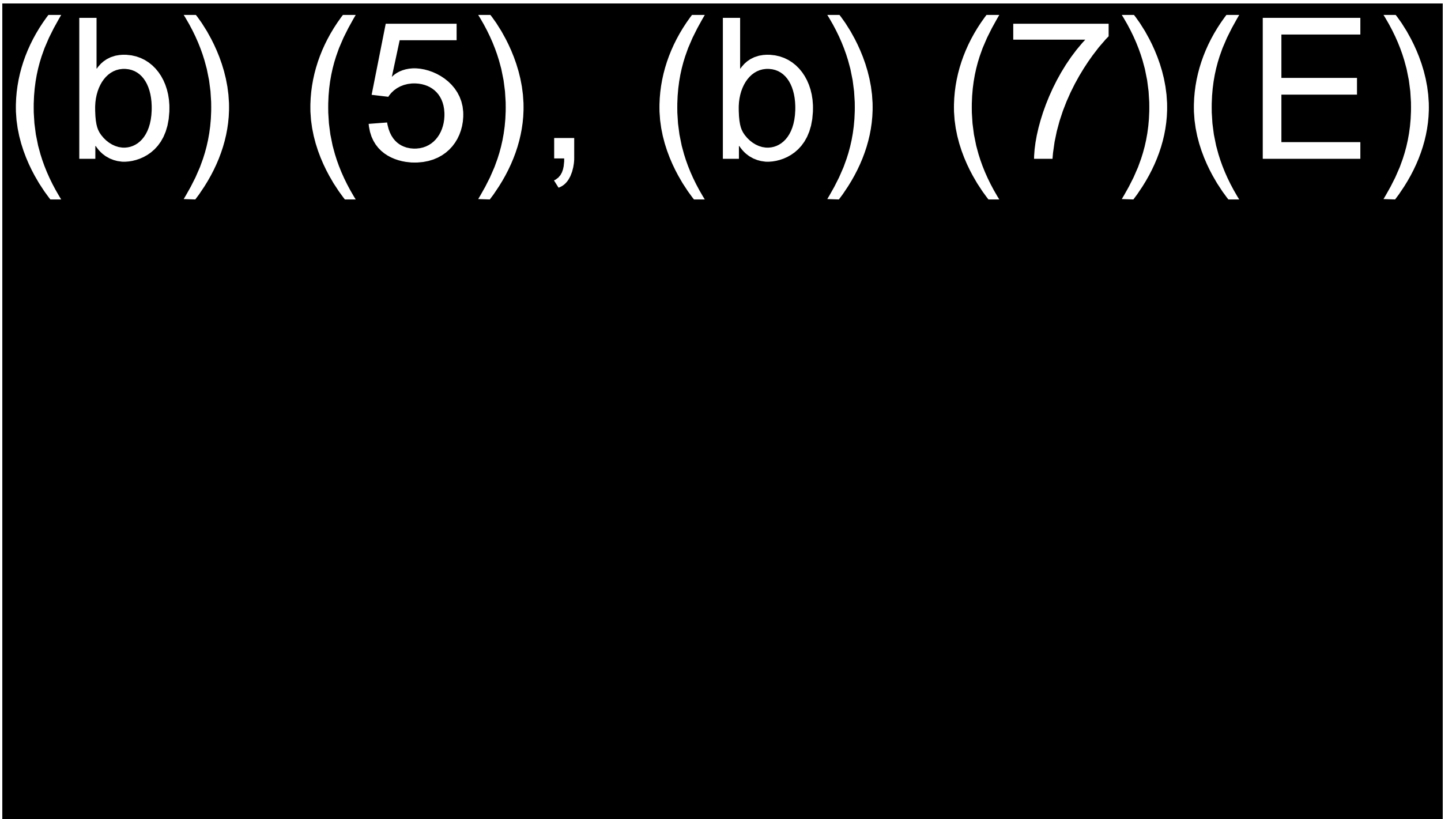
(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
SPOKANE SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E)



(b) (5), (b) (7)(E)

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
SWANTON SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7)(E)

(b) (5), (b) (7)(E)

USBP - Tucson Sector Specific Infrastructure Operational Prioritization (by miles)											
TUSCON SECTOR											
Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority
(b) (5), (b) (7)(E)											

USBP - Sector Specific Infrastructure Operational Prioritization (by miles) 11/14/2016 DUE 11/15/2016 BY 1200 EASTERN											
YUMA SECTOR											

Fill These with Miles											
New Primary (PF)	New Vehicle (VF)	Replacement Primary (PF)	New Secondary (PF)	New Roads	Repair Existing Roads	FROM (LAT/LONG)	TO (LAT/LONG)	Description (Zone)	Sector Operational Priority	HQ Strategic Priority	Executability Priority

(b) (5), (b) (7) (E)

TI Drill – Prioritization and Project COAs

~~FOUO LES~~

Purpose:

Task 1

- Determine project priority locations at the station level, across priority sectors
- Document prioritization process

Task 2

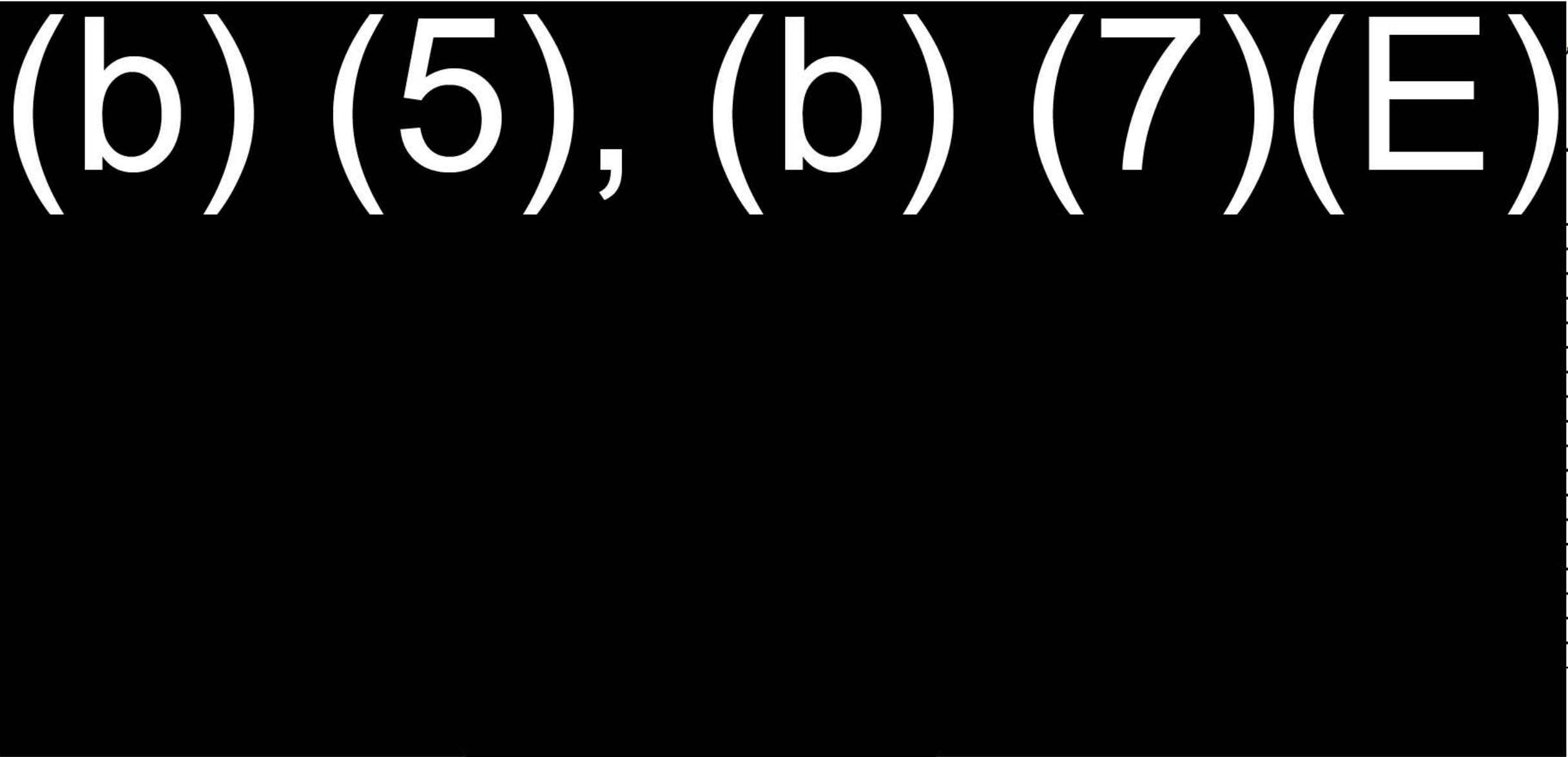
- Review “Unconstrained” TI list to ensure they are actionable
 - Three buckets
 - Bucket 1 – Replacement Fence
 - Bucket 2 – Operationally Achievable with TI
 - Bucket 3 – Operational Achievable with TI or other assets
- Document criteria for removal

Task 3

- Develop 2 to 3 COAs for Program Specific Deployments

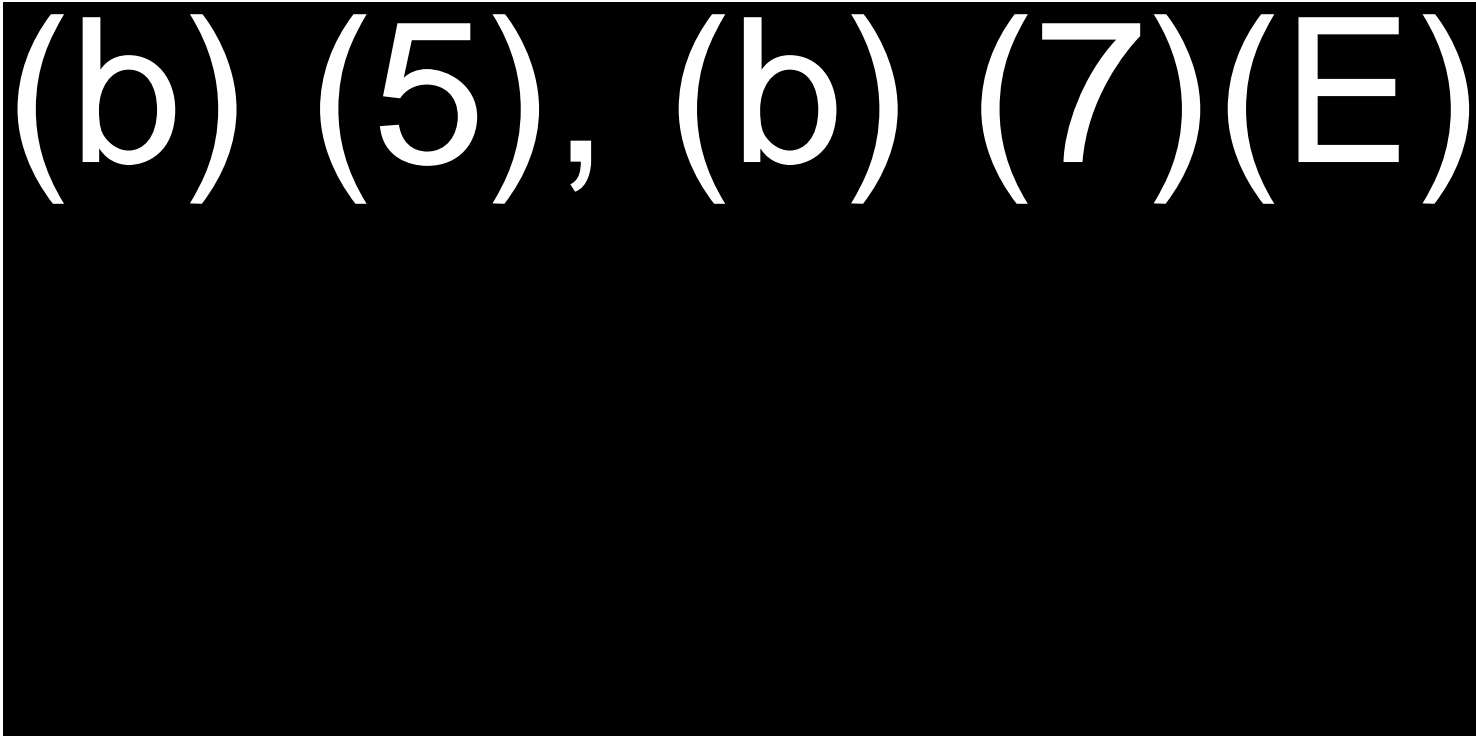
COA 1: Sector Prioritization Process for Fence

(b) (5), (b) (7)(E)



COA 1 Description

(b) (5), (b) (7)(E)



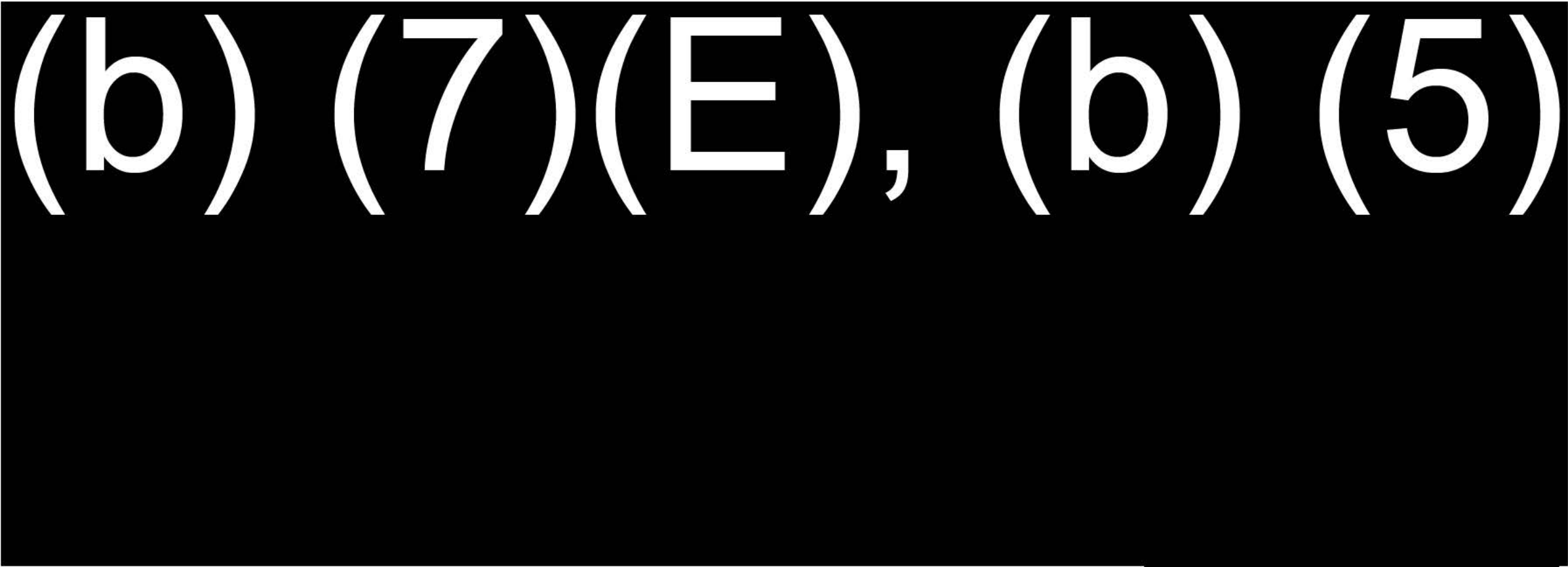
COA 1 Stations – Priority Stations based on Requirements Process, with completed IRD

RGV	LRT	DRT	BBT	EPT	TCA	YUM	ELC	SDC
(b) (5), (b) (7)(E)								

Stations are not prioritized and based on 2016 Initial Requirements Documents (IRDs) with TI COAs

COA 1 - Projects

(b) (7)(E), (b) (5)

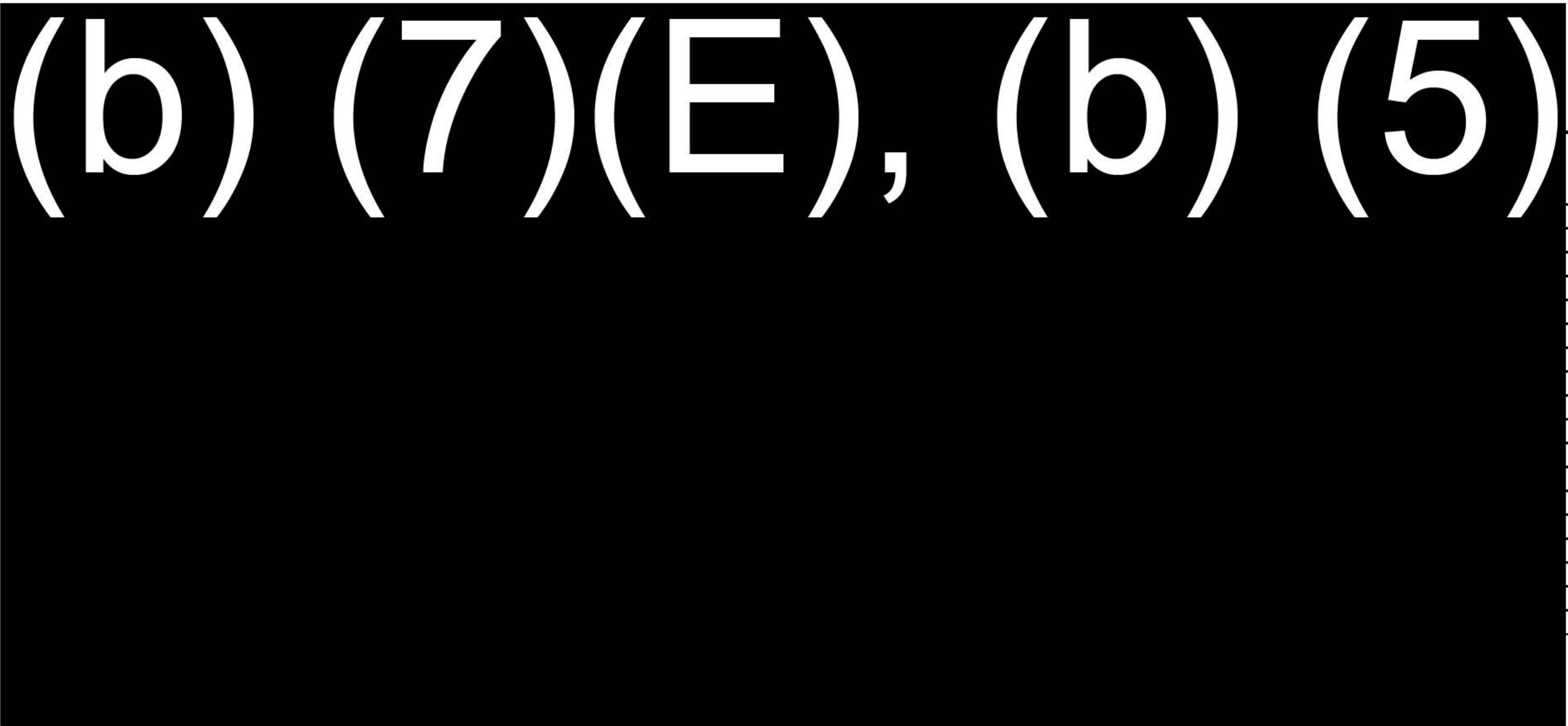


(b) (7)(E), (b) (5), (b)(6);(b)(7)(C)



COA 2: Sector Prioritization Process for Fence

(b) (7)(E), (b) (5)



COA 2

(b) (5), (b) (7)(E)

COA 2 – Northern and Southern

(b) (5), (b) (7)(E)

COA 2 - Projects

(b) (5), (b) (7)(E)

				FOUO LES

Place Holder for Project Details

~~FOUO - LES~~

Lowest IER Stations - 2017

USBP Southwest Border Interdiction Effectiveness Rate*
FY2016
Apprehension Data includes Deportable Aliens Only
Data Source: (b) (7)(E)
(b) (7)(E) Unofficial data as of 10/12/2016

TOP 10 STATIONS WITH LOWEST IER IN FY2016
(Note: Results based solely on IER percentage, not volume of total entries)

Location	APPs in AOR	Gotaways	Turnbacks	Total Entries	IER*
(b) (7)(E)					

TOP 10 STATIONS WITH LOWEST IER IN FY2016
(Note: Results based on stations relatively close to average total entries of (b) (7)(E) across all Southwest Border Stations, and also taking into account stations with an IER of less than (b) (7)(E)

Location	APPs in AOR	Gotaways	Turnbacks	Total Entries	IER*
(b) (7)(E)					

USBP Southwest Border Interdiction Effectiveness Rate*
FY2016

Apprehension Data includes Deportable Aliens Only

Data Source: (b) (7)(E)
(b) (7)(E) Unofficial data as of 10/12/2016

TOP 10 STATIONS WITH LOWEST IER IN FY2016

(Note: Results based solely on IER percentage, not volume of total entries)

Location	APPs in AOR	Gotaways	Turnbacks	Total Entries	IER*
(b) (7)(E)					

TOP 10 STATIONS WITH LOWEST IER IN FY2016

(Note: Results based on stations relatively close to average total entries of (b) (7)(E) across all Southwest Border Stations, and also taking into account stations with an IER of less than (b) (7)(E)

Location	APPs in AOR	Gotaways	Turnbacks	Total Entries	IER*
(b) (7)(E)					

*The formula used to calculate the Interdiction Effectiveness Rate is:

(b) (7) (E)

~~**WARNING:** This document is designated FOR OFFICIAL USE ONLY (FOUO). It contains information that may be exempt from public release under the Freedom of Information Act (5 USC 552). This document is to be controlled, handled, transmitted, distributed, and disposed of in accordance with Department of Homeland Security policy relating to FOUO information, and is not to be released to the public or personnel who do not have a valid "need to know" without prior approval from designated Customs and Border Protection personnel.~~

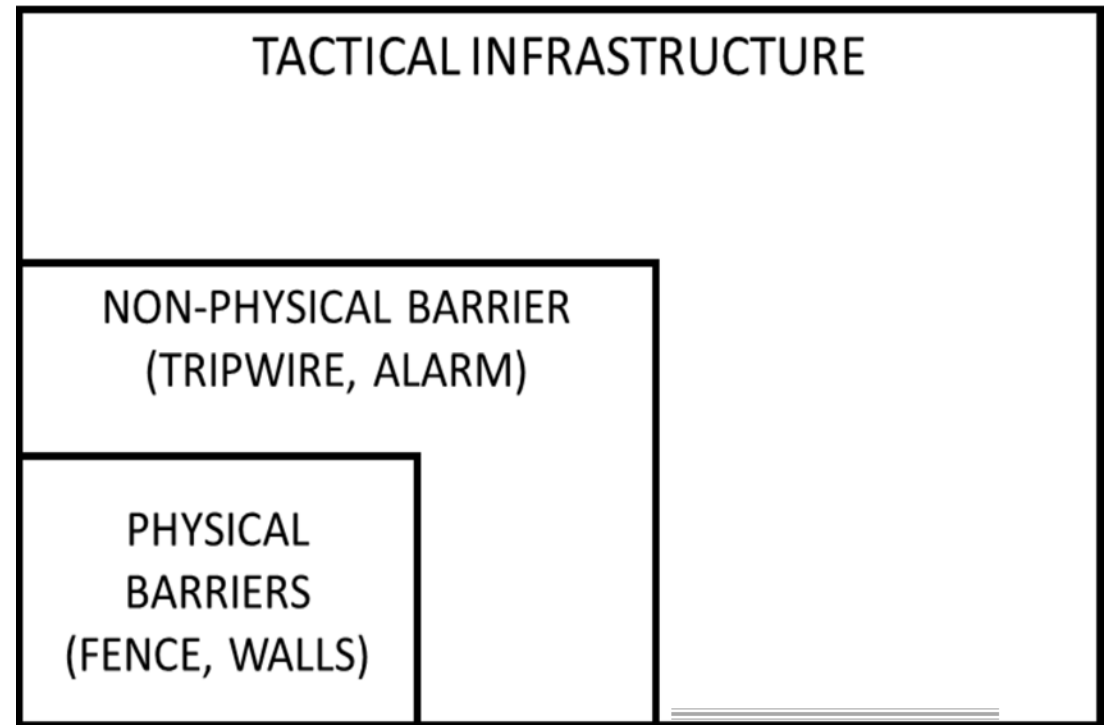
Recommended Initial USBP Fencing Course of Action

SPA/ORMD

November 21, 2016

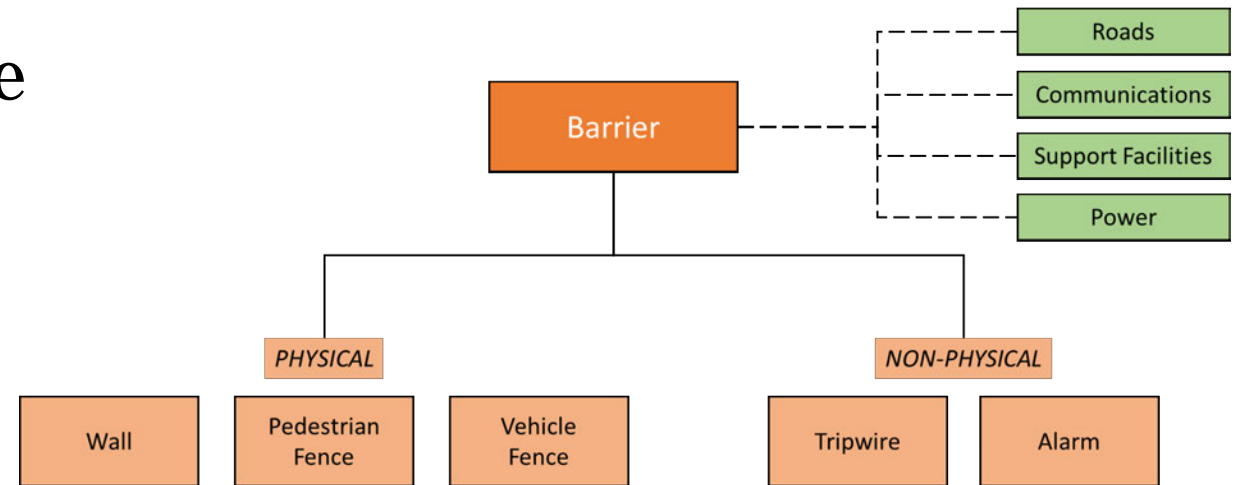
Fencing in Context

Barriers are one aspect of tactical infrastructure, which, in turn, is one pillar the total solution for U.S. Border Security. They will not, in and of themselves, provide full security. But they can represent an effective first line of defense, giving the Border Patrol time and information to act in securing our borders



Terms & Definitions

- A Physical Barrier is a permanent, man-made structure that prevents or impedes unlawful entry into the United States.
- A Non-Physical Barrier is a (generally) relocatable, electronically-based capability that alerts and informs USBP agents that a breach is, or has, occurred along the border.



Recommended Course of Action

COA Attributes

(b) (7)(E), (b) (5)

COA Description

(b) (5)

Tactical Infrastructure (Fencing)

How are we separating wants, needs and requirements?

Constrained by Process

- Validated Requirements
- Courses of Action Defined

(b) (7)(E), (b) (5)

- Specific
- Realistic
- Actionable
- Measureable
- Urgent

Constrained Plus (Recommended Initial COA)

- Validated Needs and Requirements
 - Linked to Requirements Process
- Additional Planning Required (Course of Action analysis)

(b) (7)(E), (b) (5)

- Specific
- Realistic
- Measureable
- Near- to Moderate-Term
- Waiver required

Un-Constrained/Conceptual

- Un-validated Needs (“Wants”)
- Concepts
- Long-Term Planning Required

(b) (7)(E), (b) (5)

- Conceptual
- Longer-Term
- Waiver required
- Condemnation needed

**** Deployments are prioritized based on ORMD investment priority locations. However, additional factors may also drive the order in which fencing is deployed (ex. real estate, ease of deployment, existing construction contracts)**

BACKUP SLIDES

Existing Fencing

(b) (7)(E)

Sector	Pedestrian Fence				Vehicle Fence
	Primary	Secondary	Tertiary	TOTAL PF	TOTAL VF
Big Bend (BBT)	4.6	0.0	0.0	4.6	0.2
Del Rio (DRT)	4.0	0.0	0.0	4.0	0.0
El Centro (ELC)	44.0	0.0	0.0	44.0	14.9
El Paso (EPT)	64.8	13.4	4.0	82.3	101.3
Laredo (LRT)	1.4	0.1	0.0	1.5	0.0
Rio Grande Valley (RGV)	54.9	0.0	0.0	54.9	0.0
San Diego (SDC)	45.9	13.6	2.0	61.4	0.4
Tucson (TCA)	71.8	0.8	0.0	72.6	139.4
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Pedestrian Fence (Replacement)

Pedestrian Fence (PF225)

Pedestrian Fence (PF70)

Pedestrian Fence (Legacy)

Vehicle Fence (VF300)

Vehicle Fence (Legacy)

0

25

50

100

150

200

Miles

Culliacán

017785

From: (b) (6) (b) (7) (C)
To:
Cc:
Bcc:
Subject: [EXTERNAL] RE: old ESPs!!
Date: Wed Jan 17 2018 11:06:26 EST
Attachments: Final_D5_ESP_040209-compressed.pdf

(b) (6) (b) (7) (C)—I've been digging around and I can't find transmittal letters in our files (so far) like that. The final ESP for Nogales D-5 (attached) does not indicate that the documents are available at the libraries—just from the website or by requesting a copy from (b) (6) (b) (7) (C). We do have the notices for the public meetings, and notices for the EAs that were started/completed prior to the waiver, but nothing so far for the ESPs. I'll keep looking though.

(b) (6) (b) (7) (C)

From: (b) (6) (b) (7) (C)
Sent: Wednesday, January 17, 2018 9:57 AM
To: (b) (6) (b) (7) (C)
Subject: RE: old ESPs!!

(b) (6) (b) (7) (C)

I found this old letter. Does this ring a bell??

(b) (6) (b) (7) (C)

From: (b) (6) (b) (7) (C)
Sent: Wednesday, January 17, 2018 10:50 AM
To: (b) (6) (b) (7) (C)
Subject: [EXTERNAL] RE: old ESPs!!

Hey (b) (6) (b) (7) (C)—all is well here, even though we have snow and ice for the second time this winter! That should have been a sign that the Saints would win the Super Bowl, since obviously Hell has frozen over.

You're really testing this old brain, but I believe you are correct. Let me check and I'll get back with you.

Take care.

(b) (6) (b) (7) (C)

From: (b) (6) (b) (7) (C)
Sent: Wednesday, January 17, 2018 9:28 AM
To: (b) (6) (b) (7) (C)
Subject: old ESPs!!

(b) (6) (b) (7) (C)

Hi!!

Hope all is well for you.

Guess what—need help again with my memory. Do you recall did we post the original ESPs in the local libraries such as nogales, etc??

As you know, we no longer have the ESPs posted on the CBP public website but didn't we also send them to the local libraries and there fore would still theoretically be public???

Thanks!

(b) (6) (b) (7) (C)

(b) (6) (b) (7) (C)

Environmental Planning

LMI Government Consulting

Real Estate, Environmental and Leasing Division

Border Patrol & Air and Marine

Program Management Office

U.S. Customs and Border Protection

Mobile: (b) (6) (b) (7) (C)

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Excel as a trusted strategic partner enhancing

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**ENVIRONMENTAL STEWARDSHIP PLAN
FOR CONSTRUCTION, OPERATION, AND MAINTENANCE
OF TACTICAL INFRASTRUCTURE, SEGMENT D-5
U.S. Border Patrol, Tucson Sector
Nogales Station, Arizona**

**U.S. Department of Homeland Security
U.S. Customs and Border Protection
U.S. Border Patrol**



April 2009

BW23 FOIA CBP 017789

COVER SHEET

ENVIRONMENTAL STEWARDSHIP PLAN FOR CONSTRUCTION, OPERATION, AND MAINTENANCE OF TACTICAL INFRASTRUCTURE, SEGMENT D-5 U.S. BORDER PATROL TUCSON SECTOR, NOGALES STATION, ARIZONA

Responsible Agencies: U.S. Department of Homeland Security (DHS), U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP).

Coordinating Agencies: U.S. Forest Service (USFS); U.S. Army Corps of Engineers (USACE)-Los Angeles District; U.S. Fish and Wildlife Service (USFWS); and the U.S. Section, International Boundary and Water Commission (USIBWC).

Affected Location: U.S./Mexico international border in Santa Cruz County, Arizona.

Project Description: The Project includes the construction, operation, and maintenance of tactical infrastructure to include primary pedestrian fence, construction/maintenance access roads and improvements to existing roads adjacent to approximately 4 miles of the U.S./Mexico international border within the USBP Tucson Sector, Arizona.

Report Designation: Environmental Stewardship Plan (ESP)

Abstract: CBP plans to construct, operate, and maintain approximately 4 miles of pedestrian fence, 4 miles of construction/maintenance road, and approximately 16 miles of existing access roads along the U.S./Mexico international border within USBP Tucson Sector, Arizona. The tactical infrastructure will encroach on privately owned land parcels and public lands managed by the USFS. This ESP analyzes and documents environmental consequences associated with the Project.

The public may obtain additional copies of the ESP from the Project Web site at www.BorderFencePlanning.com; by emailing information@BorderFencePlanning.com; or by written request to Mr. Loren Flossman, Program Manager, SBI Tactical Infrastructure, 1300 Pennsylvania Ave, NW, Washington, DC 20229, Tel: (877) 752-0420, Fax: (703) 752-7754.

EXECUTIVE SUMMARY

BACKGROUND

United States (U.S.) Customs and Border Protection (CBP) and U.S. Border Patrol (USBP) will construct, operate, and maintain approximately 4 miles of tactical infrastructure (TI) along the U.S/Mexico border in Santa Cruz County, Arizona. TI is a term used by USBP to describe physical structures that facilitate enforcement activities; these items typically include, but are not limited to roads, fences, lights, gates, boat ramps, and barriers.

Congress has given the Department of Homeland Security (DHS) a mandate to achieve and maintain effective control of the borders of the United States. To that end, in Section 102 of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), Congress called on DHS to construct the border infrastructure necessary to deter and prevent illegal entry into the United States. In Section 102(a) of IIRIRA, Congress provided that the Secretary of Homeland Security shall take such actions as may be necessary to install additional barriers and roads (including the removal of obstacles to detection of illegal entrants) in the vicinity of the U.S. border to deter illegal crossings in areas of high illegal entry into the U.S. Section 102(b) IIRIRA provides that, in carrying out Section 102(a), DHS is to install fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border.

On April 1, 2008, the Secretary of DHS, pursuant to his authority under Section 102(c) of IIRIRA, exercised his authority to waive certain environmental and other laws in order to ensure the expeditious construction of the tactical infrastructure that has been called for by Congress (73 Federal Register [FR] 65, pp. 18293-24, Appendix A). Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws that were included in the Secretary's waiver, the Secretary committed DHS to responsible environmental stewardship of our valuable natural and cultural resources. In support of this commitment, CBP will continue to work in a collaborative manner with local government, state and Federal land managers, Native American tribes, and the

interested public to identify and minimize the impact on environmentally sensitive resources.

CBP is performing an environmental review of the border security projects and will publish the results of this analysis in Environmental Stewardship Plans (ESPs), Best Management Practices (BMPs) developed to minimize adverse effects to the environment and any appropriate mitigations for unavoidable impacts. These ESPs will be developed for each USBP Sector scheduled for TI improvements and will address each segment of TI covered by the waiver.

GOALS AND OBJECTIVES OF THE PROJECT

The Project will provide USBP agents with the tools necessary to strengthen their control of the U.S. border between POEs in the USBP Tucson Sector. The Project will help to deter illegal entries within the USBP Tucson Sector by improving enforcement efficiency, thus preventing terrorists and terrorist weapons, illegal aliens (IAs), drugs, and other cross border violators and contraband from entering the United States, while contributing to a safer work environment for USBP agents. The Project further meets the objectives of the Congressional direction in the Fiscal Year (FY) 2007 DHS Appropriations Act (Public Law [P.L.] 109-295), Border Security Fencing, Infrastructure, and Technology appropriation to install fencing, infrastructure, and technology along the border.

The USBP Tucson Sector identified a distinct area along the border that experiences high levels of illegal cross-border activity. This activity occurs in areas that contain thick vegetation that can provide concealment, are fairly remote and not easily accessed by USBP agents or have quick access to U.S. transportation routes. The Project will help improve enforcement efficiency within USBP Tucson Sector by supporting the deterrence of illegal entries into the U.S., including terrorists and terrorist weapons, IAs, drugs, other cross border violators, and contraband. Additionally, the reduction of illegal entries into the U.S. will provide a safer work environment for USBP agents.

PROJECT

USBP will construct, operate, and maintain approximately 4 miles of primary pedestrian fence and 4 miles of construction/maintenance road, and improve approximately 16 miles of existing access roads along the U.S./Mexico border in USBP Tucson Sector, Nogales Station's Area of Operation (AO). The primary pedestrian fence is located within Santa Cruz County, Arizona. The majority of the Project corridor is located within the U.S. Forest Service's (USFS) Coronado National Forest, although a small section of access road is located on privately owned land. The locations of TI are based on a USBP Tucson Sector assessment of local operations and includes fence sections installed in areas of the border that are not currently fenced and where such infrastructure provide USBP agents with the tools necessary to strengthen their control of the U.S. border between POEs in the USBP Tucson Sector.

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

Table ES-1 provides an overview of potential environmental impacts by specific resource areas. Chapters 2 through 11 of this ESP address these impacts in more detail. CBP followed specially developed design criteria to reduce adverse environmental impacts and will implement mitigation measures to further reduce or offset adverse environmental impacts to the extent practicable. Design criteria to reduce adverse environmental impacts include selecting a route that will minimize impacts, consulting with Federal and state agencies and other stakeholders to augment efforts to avoid or minimize adverse environmental impacts, and developing appropriate BMPs to protect natural and cultural resources to the extent practicable. Potential effects, including physical disturbance and construction of solid barriers on wetlands, riparian areas, streambeds, and floodplains, will be avoided whenever practicable or mitigated if appropriate. BMPs will include implementation of a Storm Water Pollution Prevention Plan (SWPPP), Construction Mitigation and Restoration (CM&R) Plan, Spill Prevention Control and Countermeasures Plan (SPCCP), Dust Control Plan, Fire Prevention and

Suppression Plan, Rehabilitation Plan, and Unanticipated Discovery Plan to protect natural and cultural resources.

Table ES-1. Summary of Anticipated Environmental Impacts

Resource Area	Effects of the Project	Best Management Practices/Mitigation
Air Quality	Minor and temporary impact on air quality will occur during construction; air emissions will remain below <i>de minimis</i> levels.	Dust Control Plan. Fire Prevention and Suppression Plan. Maintain equipment according to specifications.
Noise	Minor temporary increases to ambient noise during construction activities will occur.	Equipment will be operated on an as-needed basis. BMPs, such as the use of blasting mats, will be implemented to minimize the potential for debris and reduce increases in noise levels.
Land Use, Recreation, and Aesthetics	Minimal impact on the land use and recreational capacity. Moderate impact on visual resources and character of the land. Beneficial effects, such as reduced vandalism, habitat degradation, debris left by IA, and wildfires will be expected.	No mitigation necessary.
Soils	Minor impact on soils. The majority of the impact will involve only topsoil layers. Also, the majority of the roads being improved are preexisting and will not require substantial modifications to the area's topography. Potential minimum to moderate impact on geologic formations due to installation of construction /maintenance road.	SWPP plan to control erosion. Unnecessary ground disturbances will be avoided. Materials will be obtained from previously used sources.
Hydrology and Groundwater	A temporary and one-time water usage will require approximately 29 acre-feet of water, creating a negligible to minor impact on the availability of water in the region. Grading and contouring will result in short-term minor adverse impacts.	SPCCP.
Surface Waters and Waters of the United States	Minor and temporary impact on surface water resources (including waters of the U.S.) from sedimentation, erosion, and accidental spills or leaks caused by construction.	SWPP and SPCC plans.
Floodplains	Direct impact on less than 1 acre of jurisdictional floodplains.	SWPP and SPCC plans.

Table ES-1, continued

Resource Area	Effects of the Project	Best Management Practices/Mitigation
Vegetation Resources	Permanent loss of approximately 29 acres due to installation of new pedestrian fence and construction/maintenance road. Potential permanent loss of approximately 15 acres due to improvements to existing access roads. Temporary minimal impacts on 2 acres for staging areas. Beneficial impact on vegetation resources is anticipated as a result of protecting resources from IA traffic.	Fire Suppression and Prevention Plan and Rehabilitation Plan. Equipment will be cleaned prior to entering or exiting the Project corridor. Avoid areas containing columnar cacti or agaves to the extent practicable. Invasive plants that appear during construction will be removed. Biological monitor on-site during construction to ensure all BMPs and mitigation plans are followed.
Wildlife and Aquatic Resources	Negligible impact on wildlife expected. Some permanent loss of habitat. Potential loss of small mammals and reptiles during construction. There is no suitable aquatic habitat in the Project corridor to support any listed species.	Surveys of nesting migratory birds will be conducted and migratory bird nests will be flagged and avoided if construction occurs during breeding/nesting season. Fence installed within wash areas will allow for conveyance of flood flows and opportunities for transboundary migration, to the extent practicable. Steep walled holes or trenches will be covered or equipped with ramps to prevent entrapment of wildlife. Use of lights during construction will be minimized.
Threatened and Endangered Species	Six species may potentially occur within the Project corridor. The Project will have an adverse effect on jaguar. The Project may affect but is not likely to adversely affect the lesser long-nosed bat, ocelot, Pima pineapple cactus, Mexican spotted owl, and the Chiricahua leopard frog. Beneficial impact is anticipated as a result of protecting habitat north of the Project corridor from IA traffic.	CBP will implement BMPs for these species, such as the use of biological monitors during construction, limited night-time construction, and avoidance. See general and other species-specific BMPs in Appendix B.
Cultural Resources	Several cultural resource sites fall within the Project corridor but can be avoided and will not be adversely impacted.	All construction will be restricted to previously surveyed areas. If any cultural material is discovered during construction, all activities within the vicinity of the discovery will be halted until receipt of clearance to resume work by a qualified archeologist.

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SECTION 1.0
GENERAL PROJECT DESCRIPTION

1.0 GENERAL PROJECT DESCRIPTION

1.1 INTRODUCTION TO THE ENVIRONMENTAL STEWARDSHIP PLAN

Congress has given the Department of Homeland Security (DHS) a mandate to achieve and maintain effective control of the borders of the United States. To that end, in Section 102 of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), Congress called on DHS to construct the border infrastructure necessary to deter and prevent illegal entry into the United States. In Section 102(a) of IIRIRA, Congress provided that the Secretary of Homeland Security shall take such actions as may be necessary to install additional barriers and roads (including the removal of obstacles to detection of illegal entrants) in the vicinity of the U.S. border to deter illegal crossings in areas of high illegal entry into the U.S. Section 102(b) IIRIRA provides that, in carrying out Section 102(a), DHS is to install fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border.

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CBP is performing an environmental review of the border security projects and will publish the results of this analysis in Environmental Stewardship Plans (ESPs), Best Management Practices (BMPs) developed to minimize adverse effects to the

environment and any appropriate mitigations for unavoidable impacts. These ESPs will be developed for each USBP Sector scheduled for TI improvements and will address each segment of TI covered by the waiver.

The Project area covered by this ESP has been determined to be an area of high illegal entry into the U.S., and the Project area has been designated by the Secretary of DHS as an area of critical border TI. This ESP is prepared in order to evaluate potential impacts of the Project on natural and human resources in the Project corridor, and to assist CBP and USBP in protecting critical resources during construction and operation of the TI being installed for the Project to the extent practicable while achieving security goals. This ESP is designed in a format that identifies each affected resource and evaluates all potential impacts to that resource, with the intent to minimize impacts to the extent practicable. This ESP was not prepared to comply with specific laws or regulations; rather it is a planning and guidance tool to facilitate construction in a manner that will minimize adverse impacts to the extent practicable.

Some resources within the Project's region of influence (ROI) are not addressed in this ESP because they are not relevant to the analyses. For example, utilities and infrastructure, roadways and traffic, sustainability, human health and safety, and prime farmlands are not addressed for the following reasons:

- Utilities and infrastructure: The Project will not affect any public utilities or similar infrastructure.
- Roadways and traffic: The Project will not be accessible from public roadways.
- Sustainability: The Project will use minimal amounts of resources during construction and maintenance.
- Human health and safety: Construction workers will be subject to Occupational Safety and Health Administration (OSHA) standards and the Project will not introduce new or unusual safety risks.
- Prime farmlands: No impact will occur to soils protected by the Farmland Protection Policy Act since none are located within the Project corridor.

1.2 USBP BACKGROUND

The mission of CBP is to prevent terrorists and terrorist weapons from entering the U.S., while also facilitating the flow of legitimate trade and travel. In supporting CBP's mission, USBP is charged with establishing and maintaining effective control of the U.S. border between POEs. USBP's mission strategy consists of five main objectives:

- Establish substantial probability of apprehending terrorists and their weapons as they attempt to enter illegally between the ports of entry (POEs)
- Deter illegal entries through improved enforcement
- Detect, apprehend, and deter smugglers of humans, drugs, and other contraband
- Leverage "smart border" technology to multiply the effect of enforcement personnel
- Reduce crime in border communities and consequently improve quality of life and economic vitality of targeted areas

USBP has nine administrative sectors along the U.S./Mexico international border. Each sector is responsible for implementing an optimal combination of personnel, technology, and infrastructure appropriate for its operational requirements. Border areas under the Tucson Sector's responsibility include Cochise, Pima, and Santa Cruz counties in Arizona. The area affected by the Project includes a portion of Santa Cruz County.

1.3 GOALS AND OBJECTIVES OF THE PROJECT

The Project will provide USBP agents with the tools necessary to strengthen their control of the U.S. border between POEs in the USBP Tucson Sector. The Project will help to deter illegal entries within the USBP Tucson Sector by improving enforcement efficiency, thus preventing terrorists and terrorist weapons, illegal aliens (IAs), drugs, and other cross border violators and contraband from entering the United States, while contributing to a safer work environment for USBP agents. The Project further meets the objectives of the Congressional direction in the Fiscal Year (FY) 2007 DHS Appropriations Act (Public Law [P.L.] 109-295), Border Security Fencing, Infrastructure,

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The USBP Tucson Sector identified a distinct area along the border that experiences high levels of illegal cross-border activity. This activity occurs in areas that contain thick vegetation that can provide concealment, are fairly remote and not easily accessed by USBP agents or has quick access to U.S. transportation routes. The Project will help improve enforcement efficiency within USBP Tucson Sector by supporting the deterrence of illegal entries into the U.S., including terrorists and terrorist weapons, IAs, drugs, other cross border violators, and contraband. Additionally, the reduction of illegal entries into the U.S. will provide a safer work environment for USBP agents.

1.4 STAKEHOLDER AND PUBLIC OUTREACH

On May 13, 2008, a public meeting was conducted in Sierra Vista to share information on the Project and consult with the community on impacts of the Project and ways to avoid, minimize, or mitigate adverse impacts. Although the Secretary of DHS issued the waiver, and thus, CBP has no responsibilities under the National Environmental Policy Act (NEPA) for this Project, CBP will review, consider, and incorporate information received from the public and other Federal, state, local agencies, as appropriate, during the preparation of this ESP.

In addition to the recent public involvement and outreach program, CBP has continued to coordinate with various Federal agencies during the development of this ESP. These agencies are described in the following paragraphs. Since the Project corridor is not located on Native American land, Native American tribes were not consulted during the development of this ESP.

U.S. Section, International Boundary and Water Commission (USIBWC) - CBP has coordinated with USIBWC to ensure that any construction along the U.S./Mexico border

does not adversely affect International Boundary Monuments or substantially impede floodwater conveyance within international drainages.

U.S. Army Corps of Engineers (USACE), Los Angeles District - CBP has coordinated all activities with USACE to identify potential jurisdictional Waters of the U.S., including wetlands, and to develop measures to avoid, minimize or compensate for losses to these resources.

U.S. Forest Service (USFS) - CBP has coordinated with USFS to identify listed species that have the potential to occur within the Project area.

U.S. Fish and Wildlife Service (USFWS) - CBP has coordinated extensively with USFWS to identify listed species that have the potential to occur in the Project area and has cooperated with the USFWS to prepare BMPs to reduce or off-set any adverse impacts. A copy of the Biological Resources Plan (BRP) is contained in Appendix B.

1.5 MITIGATION

It is CBP's policy to reduce impacts through the sequence of avoidance, minimization, mitigation, and finally, compensation. Mitigation efforts vary and include activities such as restoration of habitat in other areas and implementation of appropriate BMPs. CBP coordinates its environmental design measures with the appropriate Federal and state resource agencies. Both general BMPs and species-specific BMPs have been developed during the preparation of this ESP.

This section describes those measures that may be implemented to reduce or eliminate potential adverse impacts on the human and natural environment. Many of these measures have been incorporated by CBP as standard operating procedures on past projects. Appendix B contains the BRP, which includes the full list of environmental design measures and BMPs that will be incorporated as part of the Project. Below is a summary of BMPs for each resource category that will be potentially affected. The

mitigation measures will be coordinated with the appropriate agencies and land managers or administrators.

1.5.1 General Construction Activities

BMPs will be implemented as standard operating procedures during all construction activities. These BMPs will include proper handling, storage, and/or disposal of hazardous and/or regulated materials. To minimize potential impacts from hazardous and regulated materials, all fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein. The refueling of machinery will be completed following accepted guidelines, and all vehicles will have drip pans during storage to contain minor spills and drips. Although a major spill is unlikely to occur, any spill of a regulated substance in a reportable quantity will be cleaned up and reported to the appropriate Federal and state agencies for informational purposes. Reportable quantities of regulated substances will be included as part of a project-specific SPCCP. An SPCCP will be in place prior to the start of construction and all personnel will be briefed on the implementation and responsibilities of this plan.

All equipment maintenance, laydown, and dispensing of fuel, oil, or any other such activities, will occur in the staging area identified for use in this ESP. The designated staging area will be located in such a manner as to prevent runoff from staging areas from entering Waters of the U.S., including wetlands. All used oil and solvents will be recycled if practicable. All non-recyclable hazardous and regulated wastes will be collected, characterized, labeled, stored, transported, and disposed of consistent with U.S. Environmental Protection Agency (EPA) standards.

Solid waste receptacles will be maintained at the staging area. Non-hazardous solid waste (trash and waste construction materials) will be collected and deposited in on-site receptacles. Waste materials and other discarded materials contained in these

receptacles will be removed from the site as quickly as practicable. Solid waste will be collected and disposed of properly.

Once construction activities are completed, active measures will be implemented to rehabilitate the staging area. CBP will coordinate with the appropriate land managers to determine the most suitable and cost-effective measures for successful rehabilitation. For successful rehabilitation, all or some of the following measures may be conducted:

- Site preparation through ripping and disking to loosen compacted soils.
- Hydromulch with native grasses and forbs in order to control soil erosion and ensure adequate re-vegetation.
- Planting of native shrubs as needed.
- Temporary irrigation (i.e., truck watering) for seedlings.
- Periodic monitoring to determine if additional actions are necessary to successfully rehabilitate disturbed areas.

1.5.2 Air Quality

Standard construction BMPs, such as routine watering of the construction/access roads, will be used to control fugitive dust during the construction phases of the Project. Additionally, all construction equipment and vehicles will be maintained in good operating condition to minimize exhaust emissions.

1.5.3 Noise

Construction equipment will possess properly working mufflers and will be maintained properly to reduce backfires. All generators will be in baffle boxes (a sound-resistant box that is placed over or around a generator), have an attached muffler, or use other noise-abatement methods in accordance with industry standards.

If blasting is required, BMPs, such as the use of blasting mats, will be implemented to minimize the potential for debris and reduce increases in noise levels. Because this process will create immediate, but short-term increases in noise levels, a noise analysis will be conducted prior to construction by the blasting contractor. Blasting contractors

will be required to establish BMPs that will ensure that any blasting activities will have minimal noise impacts locally and regionally.

1.5.4 Soils

Vehicular traffic associated with the construction activities will remain on established roads to the maximum extent practicable. Areas with highly erodible soils will be given special consideration when designing the Project to ensure incorporation of various BMPs, such as, straw bales, aggregate materials, and wetting compounds, to control erosion. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared prior to construction activities and BMPs described in the SWPPP will be implemented to reduce erosion. Materials such as gravel or topsoil will be obtained from existing developed or previously used sources and not from undisturbed areas adjacent to the Project corridor.

1.5.5 Water Resources

A Stormwater Pollution Prevention Plan (SWPPP) will be prepared and implemented to reduce potential stormwater erosion and sedimentation effects to local drainages. In addition, CBP will seek technical advise from the USACE Los Angeles District in determining mitigation measures to offset impacts to jurisdictional Waters of the U.S. (WUS) and vegetated wetlands, as appropriate.

All engineering designs and subsequent hydrology reports will be reviewed by USIBWC prior to the start of construction activities so that the results of those activities do not increase, concentrate, or relocate overland surface flows into either country.

Vehicular traffic associated with construction will remain on established roads to the maximum extent practicable. Areas with highly erodible soils will be given special consideration to ensure incorporation of various and effective compaction techniques, aggregate materials, wetting compounds, and rehabilitation to reduce potential soil erosion. Erosion control measures such as waterbars, gabions, straw bales, and re-vegetation will be implemented during and after construction activities. Re-vegetation

efforts will be needed to ensure long-term recovery of the area and to prevent major soil erosion problems.

1.5.6 Biological Resources

Construction equipment will be cleaned, per BMPs, prior to entering and departing the Project corridor to minimize the spread and establishment of non-native invasive plant species. CBP will designate a qualified biological monitor who will be responsible for overseeing compliance with protective measures for Federally protected species during construction activities within designated areas. The CBP biological monitor will notify the construction manager of any activities that may harm or harass an individual of a Federally listed species. The construction manager may temporarily suspend all activities in question and notify the Contracting Officer, the Administrative Contracting Officer, and the Contracting Officer's Representative of the temporary suspension so that the key USACE personnel can be notified and apprised of the potential situation and it can be resolved.

Construction activities will avoid areas containing columnar cacti (saguaro, organ pipe) or agaves that provide the forage base for Federally protected species to the extent practicable. If they cannot be avoided, columnar cacti and agaves may be salvaged and transplanted to the extent practicable prior to construction activity. A salvage plan will be developed and approved by the government prior to the action if appropriate. The CBP biological monitor will identify a location for storing any salvaged cactus and/or agaves, and the USFWS will advise CBP regarding the relocation of plants.

Federally protected, species-specific measures, if any, resulting from the completion of the relevant BRP will be implemented by the Design-Build Contractor as required.

If construction or maintenance activities continue at night, all lights will be shielded to direct light only onto the area required for worker safety and productivity. The minimum wattage needed will be used and the number of lights will be minimized.

1.5.7 Cultural Resources

Through continued coordination with the Arizona State Historic Preservation Officer (SHPO), measures to avoid or mitigate for adverse effects on cultural resources will be identified and implemented; including the potential to: (1) avoid sites to the extent practicable; (2) monitor construction activities to ensure potential effects are minimized; (3) data recovery. During construction, orange fabric barrier fencing (or similar material) will be positioned on the edges of established roads to prevent vehicle traffic from impacting undisturbed cultural sites. Use of an on-site archaeological monitor will also be considered to monitor construction activities where site avoidance will occur. Consequently, with the implementation of avoidance and mitigation measures as appropriate, the Project will either not have an adverse effect or mitigate for any adverse effect on historic properties.

SECTION 2.0
DESCRIPTION OF THE PROJECT

2.0 DESCRIPTION OF THE PROJECT

The planned locations of TI are based on a USBP Tucson Sector assessment of local operations. CBP and USBP will construct, operate, and maintain approximately 4 miles of primary pedestrian fence and 4 miles of construction/maintenance road, and improve 16 miles of existing access roads along the U.S./Mexico border in USBP Tucson Sector, Nogales Station's Area of Operation (AO). This activity is designated as Project D-5 (Figure 2-1).

The D-5 Project corridor includes approximately 4 miles of primary pedestrian fence, which will be installed in one continuous section (Figure 2-2). Due to the rugged terrain, the majority of the primary pedestrian fence will be installed north of the Roosevelt Reservation. In order to construct and maintain the primary pedestrian fence in these areas, a construction/maintenance road (20 feet wide and 4 miles long) will be installed north of the primary pedestrian fence. Detailed maps of the Project are presented on the following pages (Figures 2-3a through 2-3i).

To access the Project corridor, several existing north-south access roads will be utilized, but will require improvements. These existing access roads provide routes from public roads south to the U.S./Mexico international border. The access roads are located on the eastern and western portions of the Project corridor. Improvements will include widening the roads from their existing 10- to 12-foot width by about 8 feet (total 20 feet wide). Some straightening will be required as well. In order to facilitate construction activities, four temporary staging areas have been identified along the eastern portion of the Project corridor. The staging areas will range in size from 0.16 to 1.21 acres.

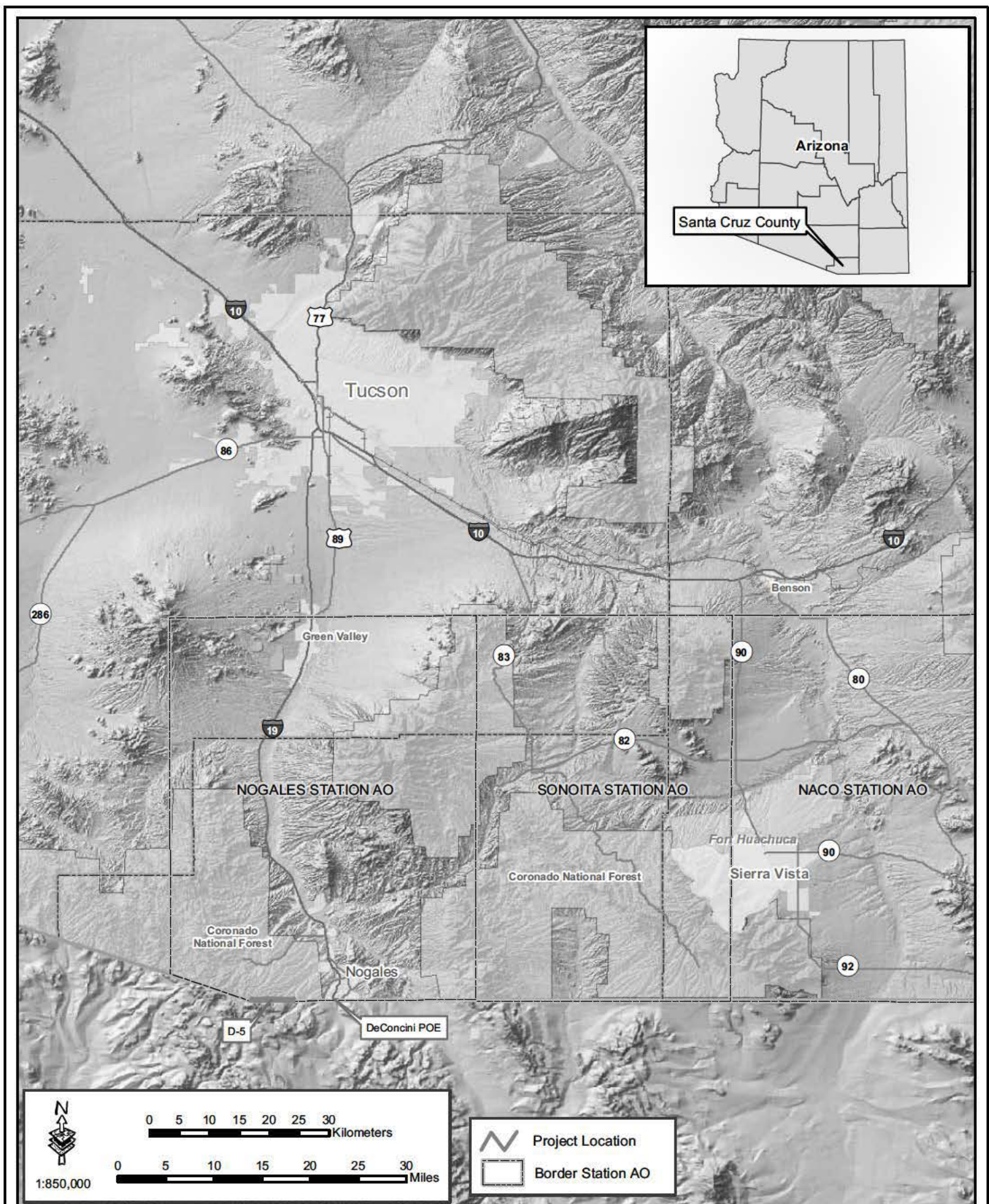


Figure 2-1: Vicinity Map



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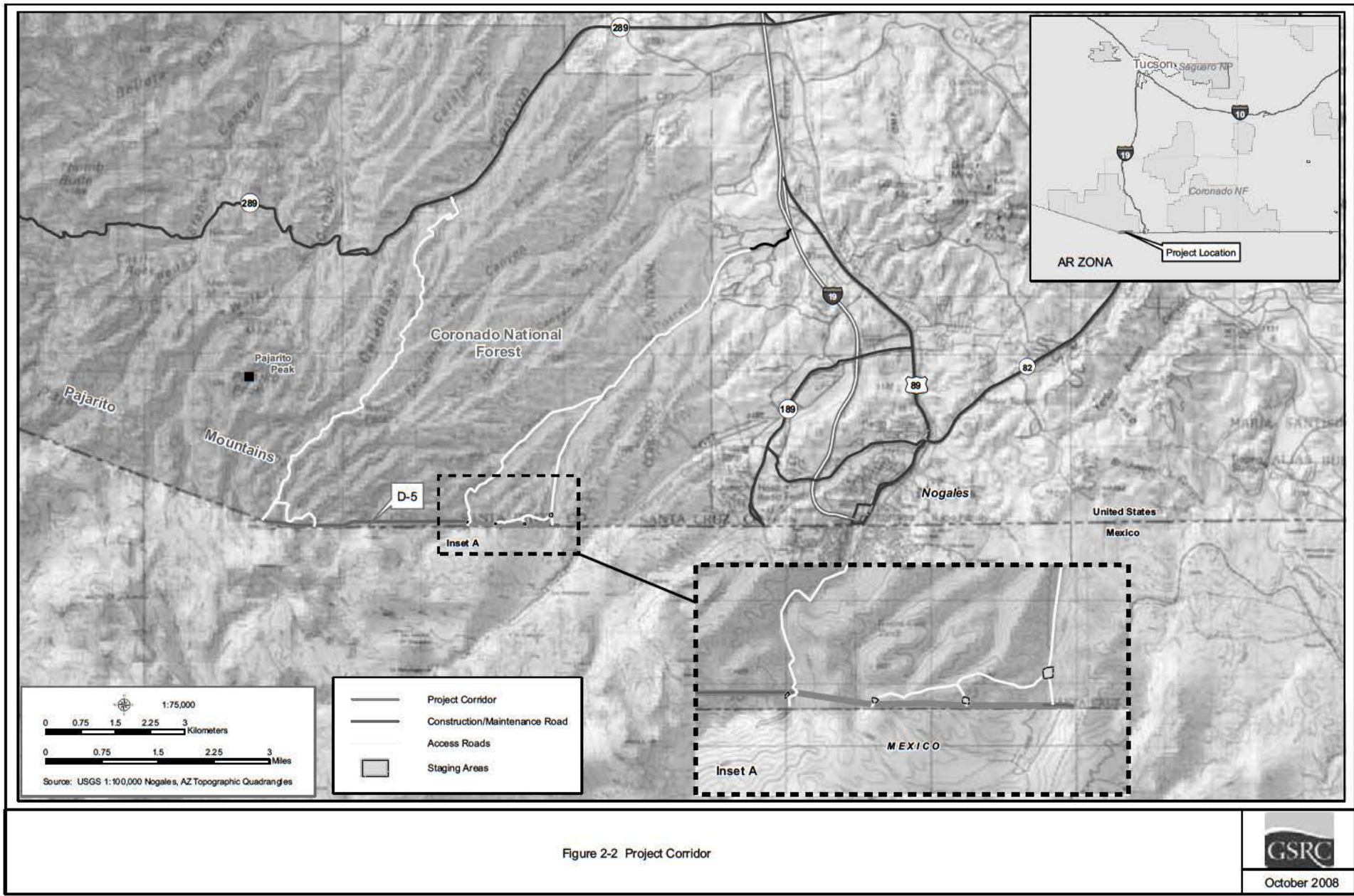


Figure 2-2 Project Corridor

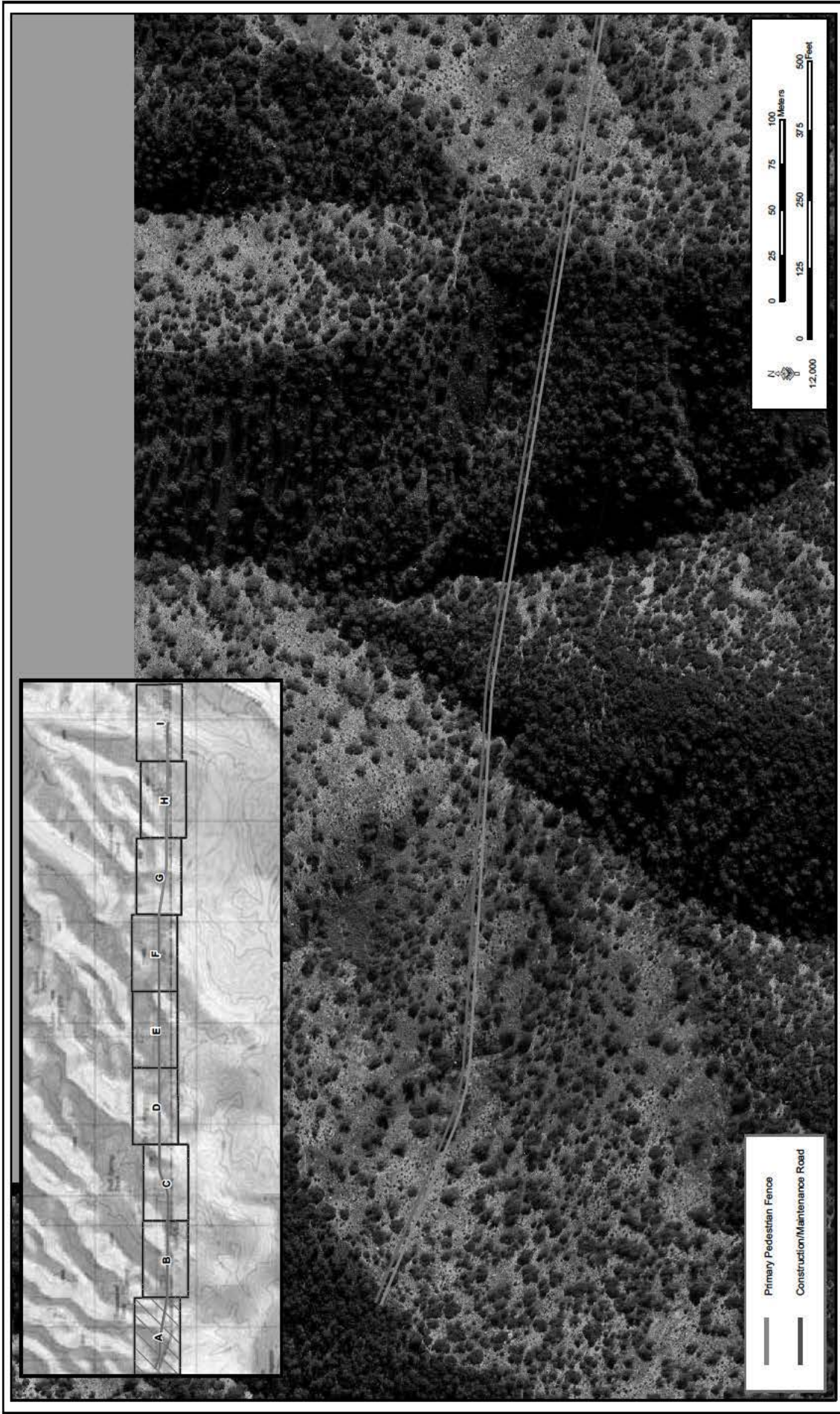


Figure 2-3a Project Area Map

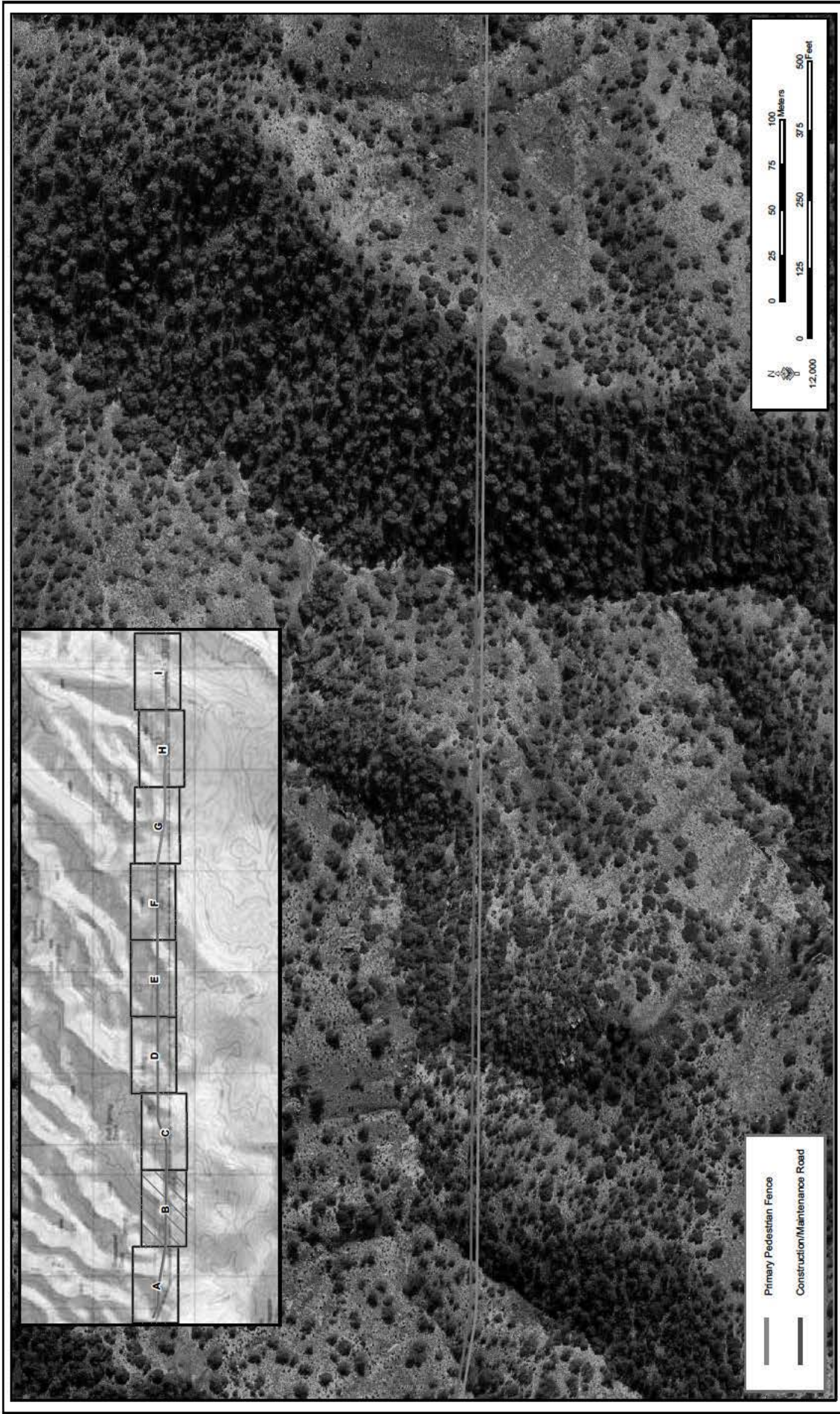


Figure 2-3b Project Area Map



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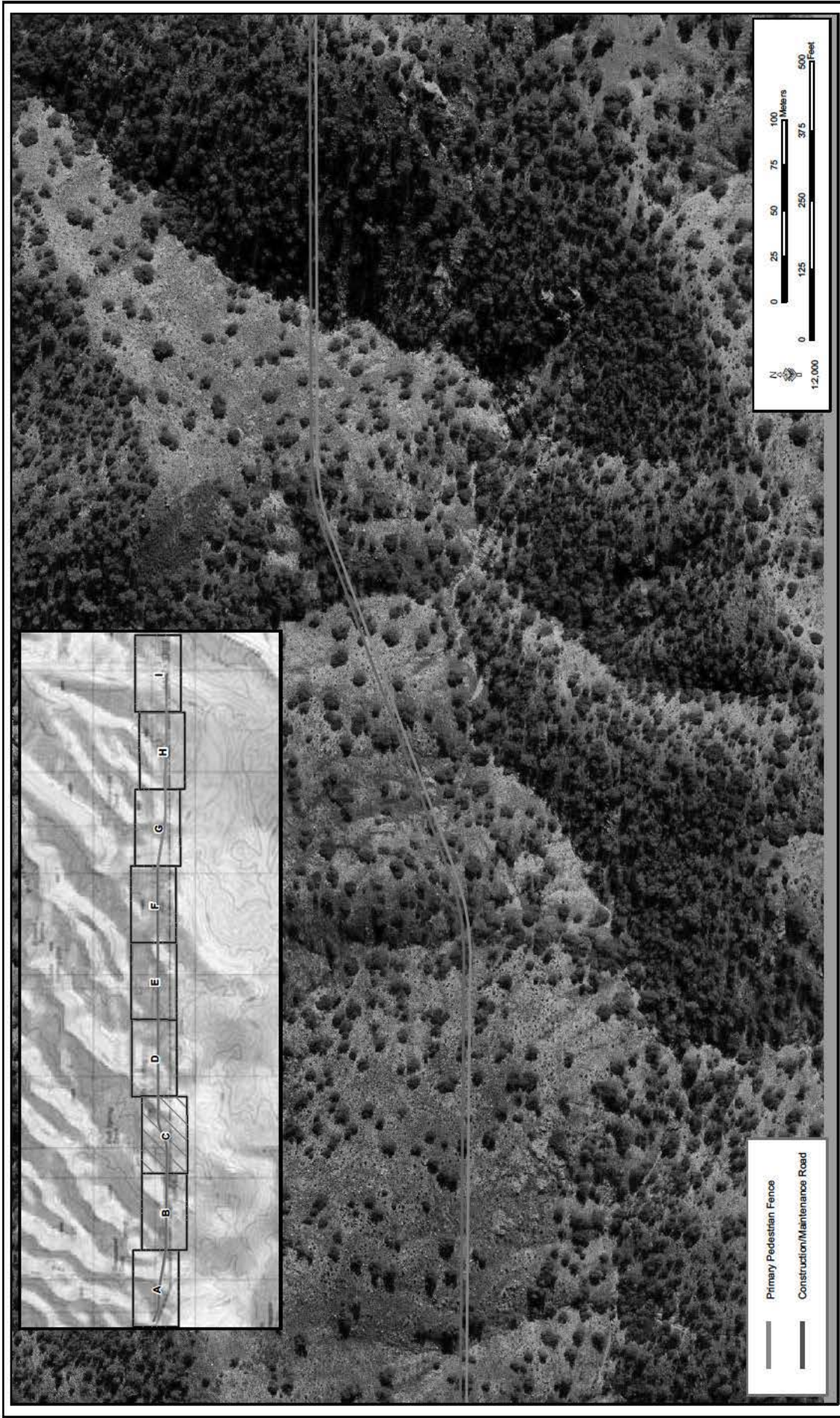


Figure 2-3c Project Area Map

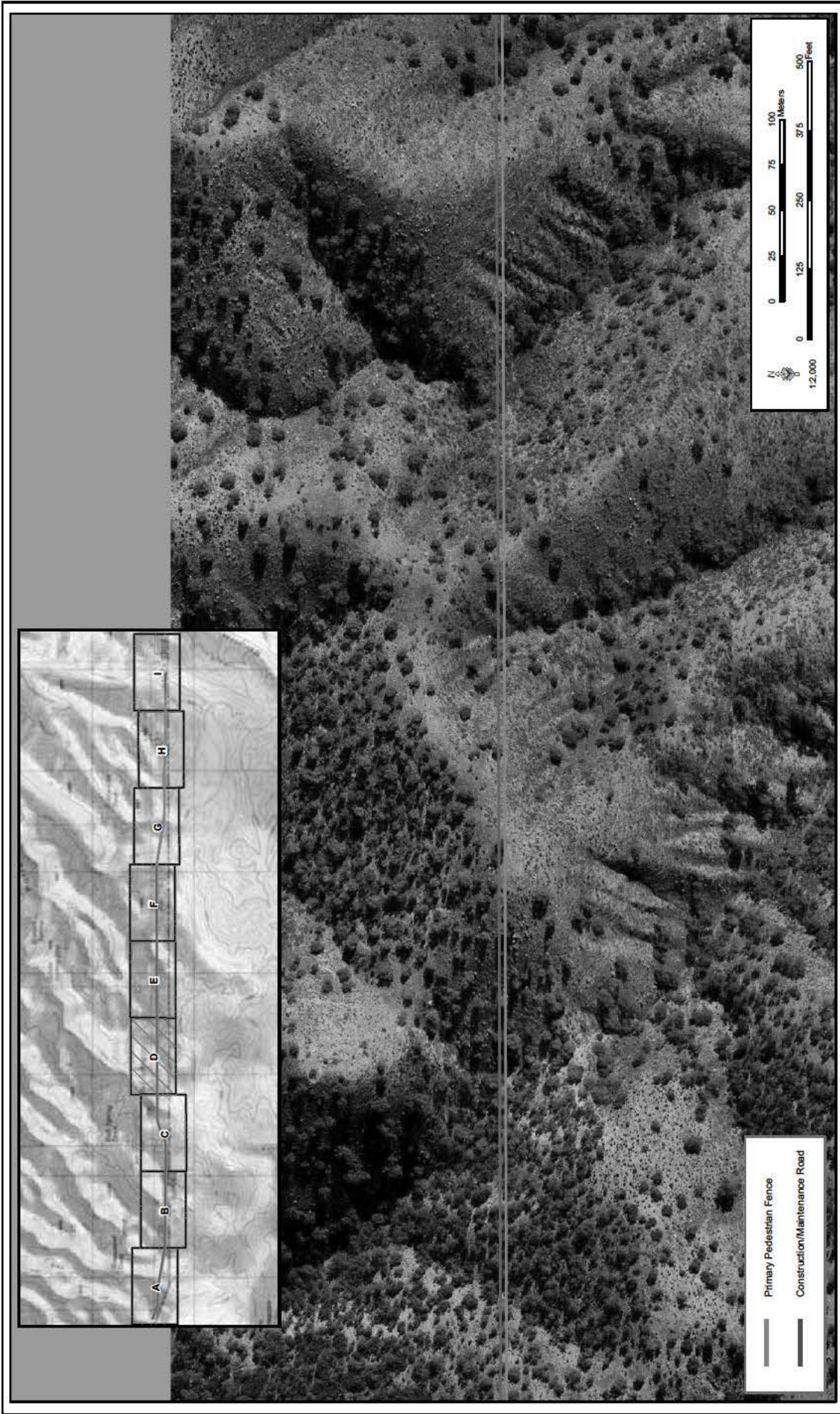


Figure 2-3d Project Area Map

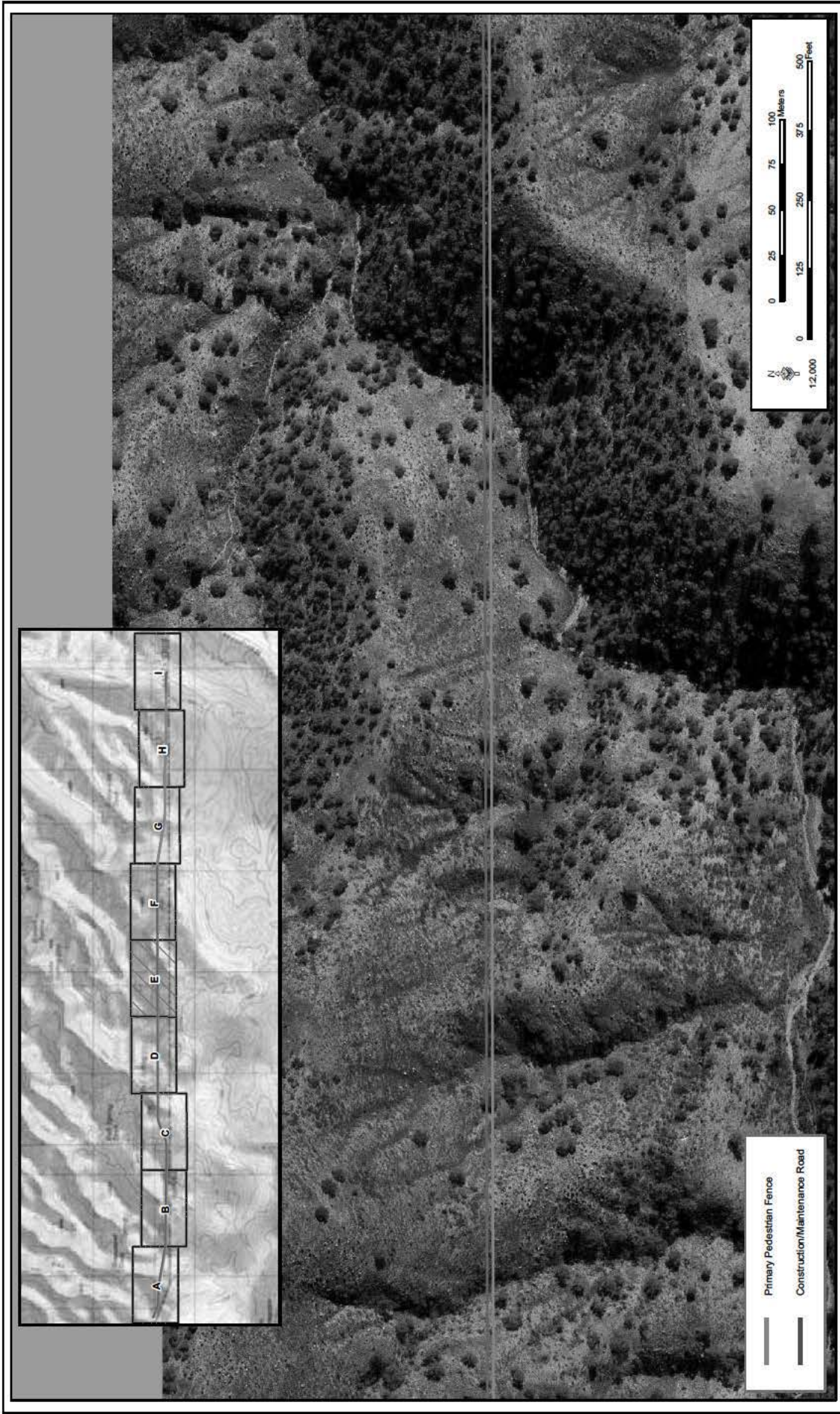


Figure 2-3e Project Area Map

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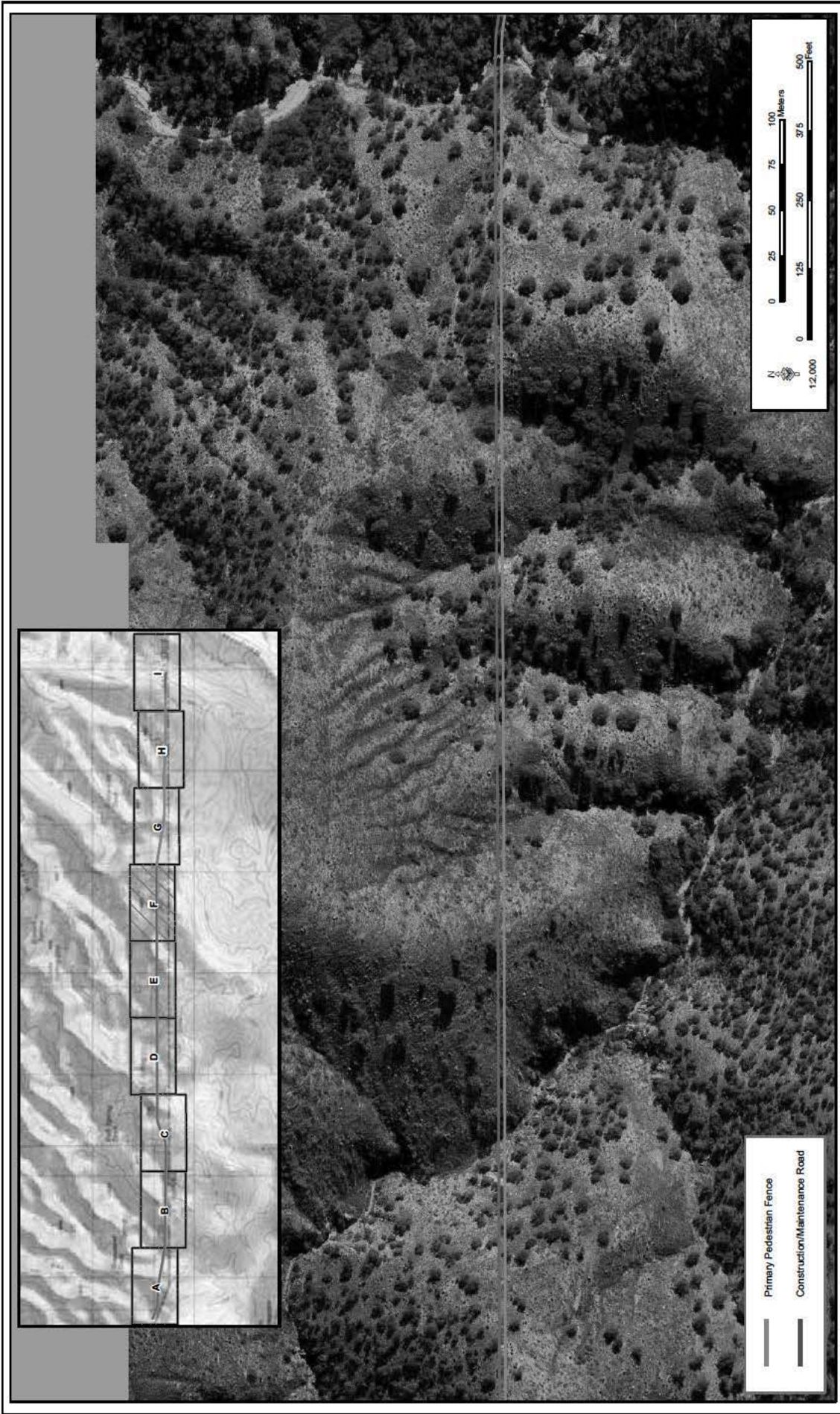


Figure 2-3f Project Area Map



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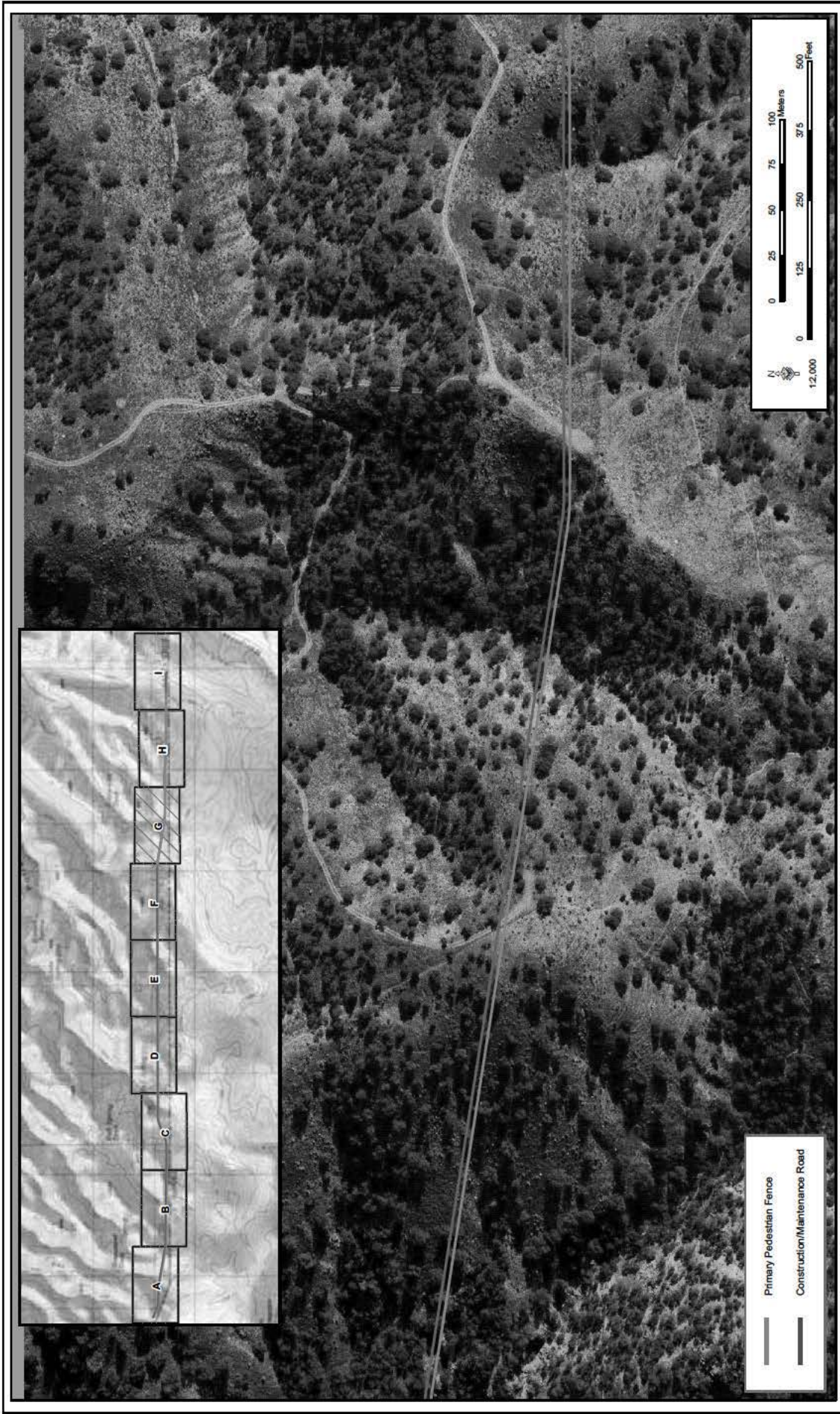


Figure 2-3g Project Area Map



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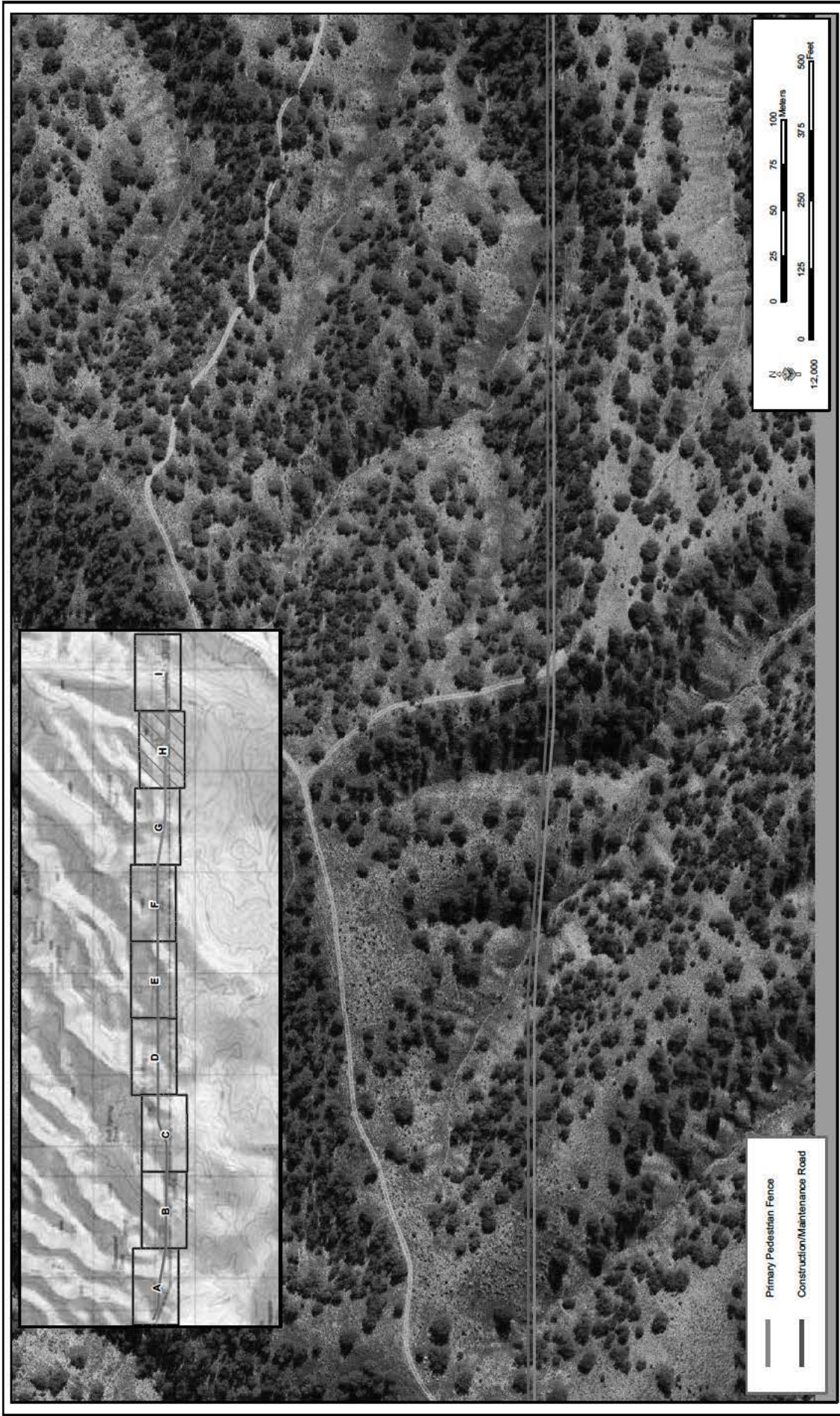


Figure 2-3h Project Area Map



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Figure 2-3i Project Area Map



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Dependent on location, terrain, and the specific tactical need of USBP operations, several primary designs are available for use. For the primary pedestrian fence, CBP will construct a bollard style fence (PV-1) due to its low maintenance requirements, durability, and structural integrity. An example of this type of fence is provided in Photograph 2-1. The fence will be designed and constructed, as appropriate, to ensure proper conveyance of floodwaters and to eliminate the potential of ponding on either side of the border. An example of this type of fence is provided in Photograph 2-1. The design performance measures for the PV-1 fence dictate that the fence must:



Photograph 2-1. Example of PV-1 Fence

- extend 15 to 18 feet above ground and be supported in subsurface footers at depths deemed necessary;
- be capable of withstanding an impact from a 10,000-pound gross weight vehicle traveling at 40 miles per hour (mph);
- be semi-transparent, as dictated by operational need;
- be designed to survive extreme climate changes of a desert environment;
- be designed to allow movement of small animals from one side to the other; and
- not impede the natural flow of water.

The PV-1 fence is an anchored, 23-foot long grout-filled steel bollard-style fence designed to prevent passage by both people and vehicles. Panels of PV-1 fence will be welded together off site and transported on site by small trucks with lowboy trailers. Using a crane, fence panels will be set in concrete-filled trenches. Construction of new fence will be completed using a trencher, a cement mixer, and a crane. No pile driving will be required for construction of PV-1 fence.

Upon completion of the TI, CBP will be responsible for the repair and maintenance of the fence and road. Such activities will include replacement or repair of fence segments that are vandalized, removal of debris that becomes entrapped along the fence or within any drainage structures, and grading of the road surface. These activities will occur on an as-needed basis; however, routine road maintenance will be expected to occur at least annually.

To account for heat restrictions for adequate concrete drying and curing processes, concrete pours for low water crossings, other drainage structures, and fencing may take place during pre-dawn hours during summer months. The contractor will determine the appropriate schedule for concrete pouring and will ensure the concrete is installed in accordance with industry standards. A 24-hour schedule will be implemented only when additional efforts are needed in order to maintain the work task schedule due to weather or to meet Federally mandated timelines. In order to facilitate construction activities during these work hours, portable lights will be used. It is estimated that no more than 10 lights will be in operation at any one time at each project site within the Project corridor.

A 6-kilowatt self-contained diesel generator powers these lights (Photograph 2-2). Each unit typically has four 400 to 1000-watt lamps. The portable light systems can be towed to the desired construction location, as needed. Lights will be shielded and will be oriented to illuminate only the work area to ensure the safety of the workers. The number of lights will be minimized and will be utilized for construction purposes only. The area affected by illumination is limited to 200 feet from the light source.



Photograph 2-2. Portable lights

It is anticipated that private contractors will perform the work, although the construction schedule has not been established at this time. Equipment anticipated to be used during the construction will include bulldozers, dump trucks, portable light generators, graders, cement trucks, front-end loaders or forklifts, and flatbed trucks.

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SECTION 3.0
AIR QUALITY

3.0 AIR QUALITY

3.1 AFFECTED ENVIRONMENT

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the CAA for the TI segments addressed in this ESP, the Secretary committed the DHS to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the CAA as the basis for evaluating potential environmental impacts and appropriate mitigations.

The U.S. Environmental Protection Agency (USEPA) established National Ambient Air Quality Standards (NAAQS) for specific pollutants. The NAAQS standards are classified as either "primary" or "secondary" standards. The major pollutants of concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), Particulate Matter (PM-10), and lead. NAAQS represent the maximum levels of background pollution that are considered safe, with an adequate margin of safety, to protect the public health and welfare. The NAAQS are included in Table 3-1.

Areas that do not meet these NAAQS standards are called non-attainment areas or maintenance areas; areas that meet both primary and secondary standards are known as attainment areas. The Federal Conformity Final Rule (40 CFR Parts 51 and 93) specifies criteria or requirements for conformity determinations for Federal projects. The Federal Conformity Rule was first promulgated in 1993 by the USEPA, following the passage of Amendments to the CAA in 1990. The rule mandates that a conformity analysis must be performed when a Federal action generates air pollutants in a region that has been designated a non-attainment or maintenance area for one or more NAAQS.

A conformity analysis is the process used to determine whether a Federal action meets the requirements of the general conformity rule. It requires the responsible Federal

agency to evaluate the nature of the proposed action and associated air pollutant emissions, calculate emissions as a result of the proposed action, and mitigate emissions if *de minimis* thresholds are exceeded. Although CBP no longer has a responsibility to meet the requirements of the general conformity rule due to the waiver, CBP has utilized the conformity analysis to evaluate potential environmental impacts.

Table 3-1. National Ambient Air Quality Standards

POLLUTANT	STANDARD VALUE	STANDARD TYPE
Carbon Monoxide (CO)		
8-hour average	9ppm (10mg/m ³)	P
1-hour average	35ppm (40mg/m ³)	P
Nitrogen Dioxide (NO₂)		
Annual arithmetic mean	0.053ppm (100µg/m ³)	P and S
Ozone (O₃)		
8-hour average*	0.08ppm (157µg/m ³)	P and S
1-hour average*	0.12ppm (235µg/m ³)	P and S
Lead (Pb)		
Quarterly average	1.5µg/m ³	P and S
Particulate<10 micrometers (PM-10)		
Annual arithmetic mean	50µg/m ³	P and S
24-hour average	150µg/m ³	P and S
Particulate<2.5 micrometers (PM-2.5)		
Annual arithmetic mean	15µg/m ³	P and S
24-hour average	65µg/m ³	P and S
Sulfur Dioxide (SO₂)		
Annual average mean	0.03ppm (80µg/m ³)	P
24-hour average	0.14ppm (365µg/m ³)	P
3-hour average	0.50ppm (1300µg/m ³)	S

Legend: P= Primary
S= Secondary

Source: USEPA 2006a.

ppm = parts per million

mg/m³ = milligrams per cubic meter of air

µg/m³ = micrograms per cubic meter of air

* Parenthetical value is an approximate equivalent concentration

Santa Cruz County

Santa Cruz County is designated as a moderate non-attainment area for PM-10 (USEPA 2008). The sources of PM-10 include natural wind storms, wind blown dust from agricultural operations and emissions from the combustion of hydrocarbons in cars, trucks, generators and industrial equipment.

3.2 ENVIRONMENTAL CONSEQUENCES

Temporary and minor increases in air pollution will occur from the use of construction equipment (combustible emissions) and the disturbance of soils (fugitive dust) during construction of the primary pedestrian fence and maintenance of access roads. Fugitive dust emissions were calculated using the emission factor of 0.19 ton per acre per month (Midwest Research Institute [MRI] 1996), which is a more current standard than the 1985 PM -10 emission factor of 1.2 tons per acre-month presented in AP- 42 Section 13 Miscellaneous Sources 13.2.3.3 (USEPA 2001).

USEPA's NONROAD Model (USEPA 2005) was used, as recommended by USEPA's *Procedures Document for National Emission Inventory, Criteria Air Pollutants, 1985-1999* (USEPA 2001), to calculate emissions from construction equipment. Combustible emission calculations were made for standard construction equipment, such as bulldozers, excavators, pole trucks, front-end loaders, backhoes, cranes, and dump trucks. Assumptions were made regarding the total number of days each piece of equipment will be used, and the number of hours per day each type of equipment will be used.

Construction workers will temporarily increase the combustible emissions in the airshed during their commute to and from the Project area. Emissions from delivery trucks contribute to the overall air emission budget. Emissions from delivery trucks, construction worker commuters traveling to the job site were calculated using the USEPA MOBILE6.2 Model (USEPA 2005a, 2005b and 2005c).

The total air quality emissions were calculated for the construction activities occurring in Santa Cruz County to compare to the General Conformity Rule. Summaries of the total emissions for the Project are presented in Table 3-2. Details of the analyses are presented in Appendix C.

Table 3-2. Total Air Emissions (tons/year) from Construction Activities in Santa Cruz County vs. de minimis Levels

Pollutant	Total (tons/year)	<i>De minimis</i> Thresholds (tons/year)
CO	29.16	100
VOCs	5.89	100
NO _x	46.76	100
PM-10	36.65	100
PM-2.5	10.34	100
Sulfur Dioxide (SO ₂)	6.03	100

Source: 40 CFR 51.853 and Gulf South Research Corporation (GSRC) model projections

Note: Santa Cruz County is in non-attainment for PM-10.

Several sources of air pollutants contribute to the over-all air impacts of the construction Project. The air results in Table 3-2 included emissions from:

1. Combustible engines of construction equipment
2. Construction workers commute to and from work
3. Supply trucks delivering materials to construction site
4. Fugitive dust from job site ground disturbances

As can be seen from the tables above, the proposed construction activities do not exceed *de minimis* thresholds in Santa Cruz County and, thus, do not require a Conformity Determination. As there are no violations of air quality standards and no conflicts with the state implementation plans, there will be no significant impacts to air quality from the implementation of the Planned Action.

During construction of the Project, proper and routine maintenance of all vehicles and other construction equipment will be implemented to ensure that emissions are within the design standards of all construction equipment. Dust suppression methods will be implemented to minimize fugitive dust. In particular, wetting solutions will be applied to the construction area to minimize the emissions of fugitive dust. By using these environmental design measures, air emissions from the Project will be temporary and will not significantly impair air quality in the region.

SECTION 4.0
NOISE

4.0 NOISE

4.1 AFFECTED ENVIRONMENT

Noise is generally described as unwanted sound, which can be based either on objective effects (*i.e.*, hearing loss, damage to structures, *etc.*) or subjective judgments (*e.g.*, community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB.

Noise levels occurring at night generally produce a greater annoyance than do the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being 10 dBA (A-weighted decibel is a measure of noise at a given, maximum level or constant state level) louder than the same level of intrusive noise during the day, at least in terms of its potential for causing community annoyance. This perception is largely because background environmental sound levels at night in most areas are also about 10 dBA lower than those during the day.

Acceptable noise levels have been established by the U.S. Department of Housing and Urban Development (HUD) for construction activities in residential areas (HUD 1984):

Acceptable (not exceeding 65 decibels) – The noise exposure may be of some concern but common building construction will make the indoor environment acceptable and the outdoor environment will be reasonably pleasant for recreation and play.

Normally Unacceptable (above 65 but not greater than 75 decibels) – The noise exposure is significantly more severe; barriers may be necessary between the site and prominent noise sources to make the outdoor environment acceptable;

special building constructions may be necessary to ensure that people indoors are sufficiently protected from outdoor noise.

Unacceptable (greater than 75 decibels) – The noise exposure at the site is so severe that the construction costs to make the indoor noise environment acceptable may be prohibitive and the outdoor environment will still be unacceptable.

National Forests - The Federal Highway Administration noise abatement criteria specify different Leq(h) dBA noise levels for different land use categories. For receptors where serenity and quiet are of extraordinary significance, such as National Forests, the noise criterion is 57 dBA (23 CFR 722 Table 1).

As a general rule of thumb, noise generated by a stationary noise source, or “point source,” will decrease by approximately 6dB over hard surfaces and 9dB over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 85 dBA at a reference distance of 50 feet over a hard surface, then the noise level will be 79 dBA at a distance of 100 feet from the noise source, 73 dBA at a distance of 200 feet, and so on. To estimate the attenuation of the noise over a given distance the following relationship is utilized:

$$\text{Equation 1: } dBA_2 = dBA_1 - 20 \log^{(d_2/d_1)}$$

Where:

dBA_2 = dBA at distance 2 from source (predicted)

dBA_1 = dBA at distance 1 from source (measured)

d_2 = Distance to location 2 from the source

d_1 = Distance to location 1 from the source

Source: California Department of Transportation 1998.

4.2 ENVIRONMENTAL CONSEQUENCES

The majority of the Project corridor is located within a National Forest which is a sensitive noise receptor with a de minimis threshold of 57 dBA (23 CFR 722 Table 1). Table 4-1 describes noise emission levels for construction equipment which range from 76 dBA to 84 dBA (Federal Highway Administration [FHWA] 2007).

Table 4-1. A-Weighted (dBA) Sound Levels of Construction Equipment and Modeled Attenuation at Various Distances¹

Noise Source	50 feet	100 feet	200 feet	500 feet	1000 feet
Backhoe	78	72	68	58	52
Crane	81	75	69	61	55
Dump truck	76	70	64	56	50
Excavator	81	75	69	61	55
Front end loader	79	73	67	59	53
Concrete mixer truck	79	73	67	59	53
Pneumatic tools	81	75	69	61	55
Auger drill rig	84	78	72	64	58
Bull dozer	82	76	70	62	56
Generator	81	75	69	61	55

Source: FHWA 2007 and GSRC

1. The dBA at 50 feet is a measured noise emission (FHWA 2007). The 100 to 1,000 foot results are GSRC modeled estimates.

There are no residential sensitive receptors within 2 miles of the Project corridor. The Project corridor is located in the Coronado National Forest which is a sensitive noise receptor with a de minimis threshold of 57 dBA (23 CFR 772 Table 1). Assuming the worst case scenario of 84 dBA, the noise model predicts that noise emissions from the construction equipment will have to travel 1,100 feet before they will attenuate to acceptable levels of 57 dBA.

Geographic Information Systems (GIS) were used to determine the area encompassed within the 1,100 feet 57 dBA noise contour. Figure 4-1 presents a 57 dBA noise contour from the edge of the Project corridor. Approximately 1,584 acres per month of USFS land may be exposed to noise emissions greater than 57 dBA.

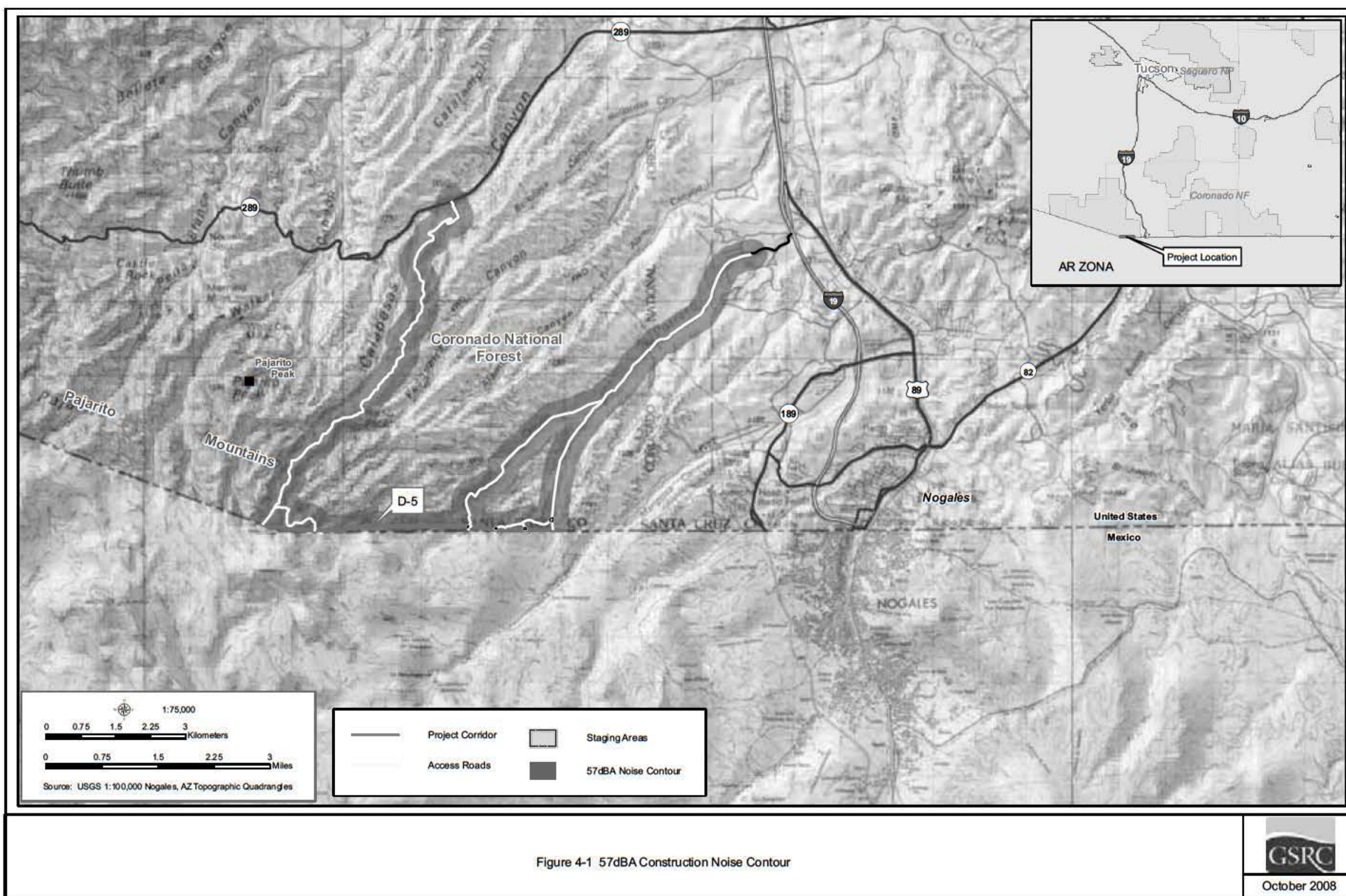
Blasting might be needed in certain sections that have large rocks or boulders that create sharp curves, large humps in the road, or other driving hazards that need to be eliminated. Holes will be drilled into the center of the larger rocks and detonating material will be placed in the holes and activated in order to split or fracture the rock into smaller, more manageable pieces for removal.

Blasting contractors will be required to utilize established BMPs that will ensure that any blasting activities will have minimal noise impacts, locally and regionally.

Vibration levels and airblast overpressure will increase as a result of blasting activities. Airblast overpressure is low frequency air pressure, which usually falls below the sound level that a human ear can hear; however, the energy that is produced could potentially damage nearby structures. Table 4-2 shows a range of vibration and airblast overpressure based upon distance from the affected structure. Vibration levels are measured by the peak particle velocity (PPV) and recorded in inches per second (IPS). Airblast overpressure levels are measured and recorded in decibels (dB). The dB levels for the blasting falls within the “uncomfortably loud” category (120 dB), as shown in Table 4-2. However, the overpressures will not be high enough to damage nearby structures especially since the closest structure is over 2 miles away. The industry acceptable maximum PPV level near residential dwellings is 2.00 IPS and the noise level maximum is 140 db for construction-related blasting.

Table 4-2. Vibration and Airblast Overpressure Levels

Distance from Blast Site to Structure	Calculated PPV	Calculated dB
900 feet	0.06 IPS	123.14 dB
775 feet	0.07 IPS	124.54 dB
485 feet	0.15 IPS	129.02 dB
300 feet	0.32 IPS	133.63 dB



Tucson Sector Tactical Infrastructure

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ESP, Nogales Station

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April 2009

Additionally, BMPs, such as the use of blasting mats, will be implemented to minimize the potential for debris and reduce increases in noise levels. Minimal impacts will occur as a result of the blasting activities due to the temporary nature of the work and use of proper BMPs.

Because this process will create immediate, but short-term increases in noise levels, a noise analysis will be conducted prior to construction by the blasting contractor. In addition, the contractor will help to implement a plan that will ensure the action will not risk injury or significantly affect people near the construction site.

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SECTION 5.0
LAND USE, RECREATION, AND AESTHETICS

5.0 LAND USE, RECREATION, AND AESTHETICS

5.1 AFFECTED ENVIRONMENT

5.1.1 Land Use

A small portion of the Project will occur within the Roosevelt Reservation, but due to the rugged terrain, the majority of the Project will extend further north to allow for installation of the primary pedestrian fence and construction/maintenance road. CBP operations and TI construction within the 60-foot Roosevelt Reservation is consistent with the purpose of the Roosevelt Reservation, and any CBP activity within this reservation is outside the oversight or control of Federal land managers. The majority of the Project is within the USFS Coronado National Forest (Figure 5-1). A small portion of the Project corridor is privately owned. Land use within the Project corridor includes recreational and ranching activities.

5.1.2 Aesthetics

Aesthetic resources consist of the natural and manmade landscape features that give a particular environment its visual characteristics. The current visual characteristics of the Project corridor are mostly open areas with steep rolling hills and deep dissecting valleys covered by the natural vegetation of the region.

5.2 ENVIRONMENTAL CONSEQUENCES

5.2.1 Land Use

Approximately 29 acres of land will be permanently impacted with the installation of the primary pedestrian fence and construction/maintenance road and approximately 15 acres will be permanently impacted due to improvements to the existing access roads. Of the 44 acres, four acres of land fall within the Roosevelt Reservation and will remain a Federal law enforcement zone. The four staging areas, which are needed to store and stockpile materials and equipment, will temporarily affect approximately 2 acres. However, these four areas will be rehabilitated upon completion of construction

activities and the current land use restored; therefore, impacts associated with the staging areas are considered temporary and minimal.

Construction and operation of TI will increase border security in the Project corridor and may result in a change to illegal traffic patterns. However, changes to IA traffic patterns result from a myriad of factors and therefore are considered unpredictable and beyond the scope of this ESP. Beneficial indirect impacts will be expected, as the primary pedestrian fence will substantially reduce or eliminate IA vehicle traffic and associated trash and illegal roads in the Project corridor.

5.2.2 Aesthetics

The installation of primary pedestrian fence and the construction/maintenance road will have adverse impacts on the appearance of the Project corridor. The Project occurs in remote areas of rugged terrain which will only be accessible from the access roads and the construction/maintenance road; however, the visual impact of a primary pedestrian fence and construction/maintenance/access road on an otherwise undeveloped area will be conspicuous. The presence of construction equipment and the potential use of portable lighting will have a minor, temporary impact on appearance during construction. The Project will degrade the existing visual character of the region; thus, impacts are considered moderate.

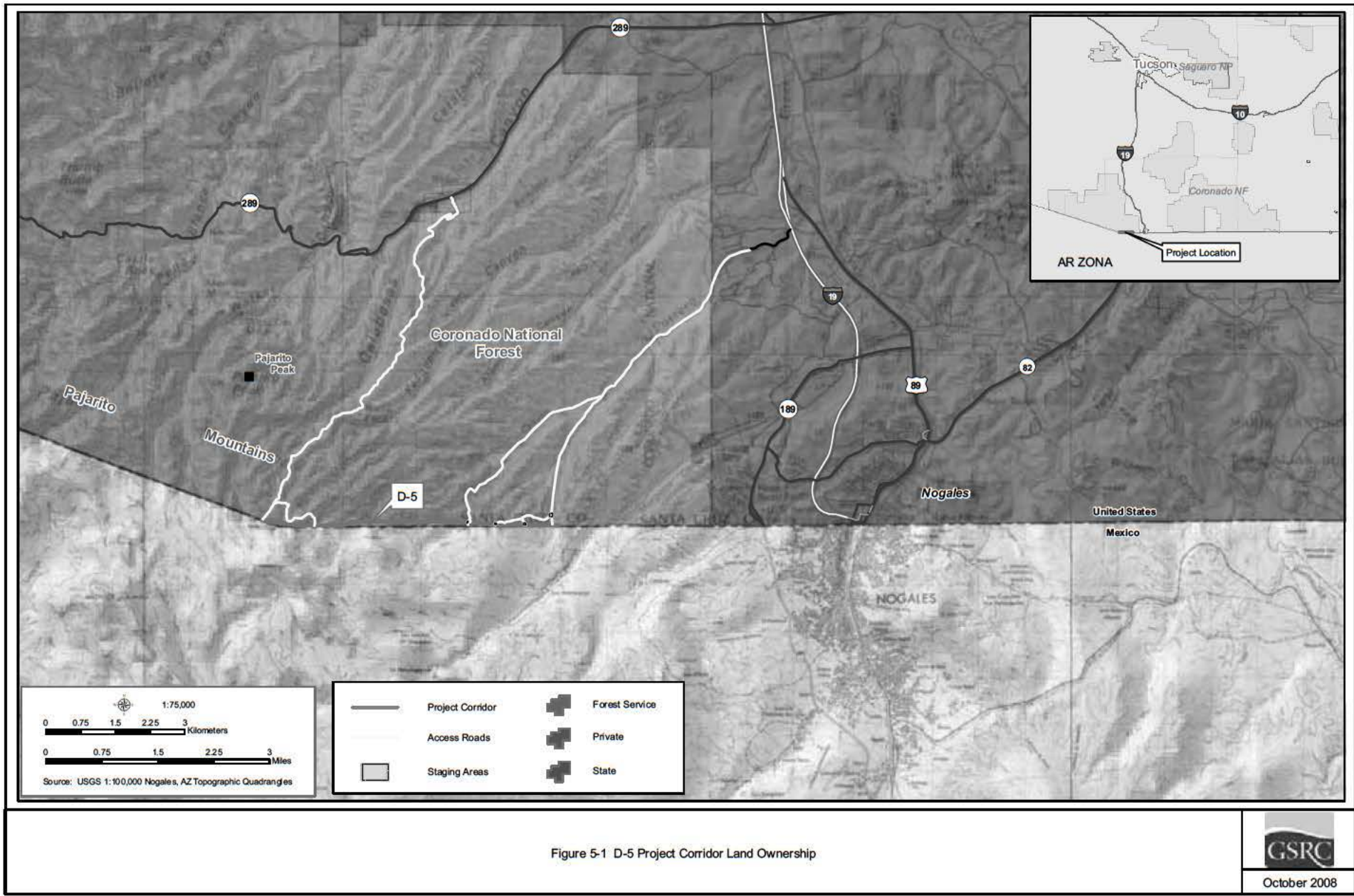


Figure 5-1 D-5 Project Corridor Land Ownership

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ESP, Nogales Station

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SECTION 6.0
GEOLOGICAL RESOURCES AND SOILS

6.0 GEOLOGICAL RESOURCES AND SOILS

6.1 AFFECTED ENVIRONMENT

The project corridor is located in the Basin and Range Province of the southwest U.S. Outcropping rocks consist of primarily intrusive igneous granites, rhyolites and volcanics of Cretaceous age (USGS 2000). The alluvium in the valleys is the result of erosion and weathering of these rocks. The rugged topography results from erosion of the uplifted intrusives along faults, resulting in down-faulted basins and upthrown mountains (Pozo Verde Mountains) and plateaus. There are no known active faults in the region of the project corridor, and seismic potential is low (Fellows 2000). The rock types and formations found in the region are common, and no special significance is placed on their occurrence in the project corridor.

Arizona has a diverse assortment of soil types throughout the state with variations in depth, texture, chemical properties and appropriate land uses. This diversity is directly related to regional differences in climate, parent material, topography and erosion actions. The soil associations found in the Project corridor are the Lampshire series, the Caralampi series, Comoro soils, Grabe-Comoro complex, Pima soils, and Torrifluvents and Haplustolls (NRCS 1971, 2007) and are depicted in Figure 6-1.

The Lampshire series is a well drained shallow soil that formed in alluvium and colluvium from igneous rocks (USDA 1979). This soil is well drained, exhibits medium to high runoff, permeability is moderate or moderately rapid, and occurs on slopes of 0 to 90 percent. Lampshire soils exhibit a slight erosion potential, due to the low-lying areas in which they exist. Lampshire soils are used for livestock grazing and wildlife habitat. This soil typically occurs between 3,400 and 5,400 feet above mean sea level (amsl) in elevation and is located in the western portion of the Project corridor.

Caralampi soils occurring onsite are typical of strongly sloping to steep fan terraces and hills are both well drained with similar permeability rates and can be found near the

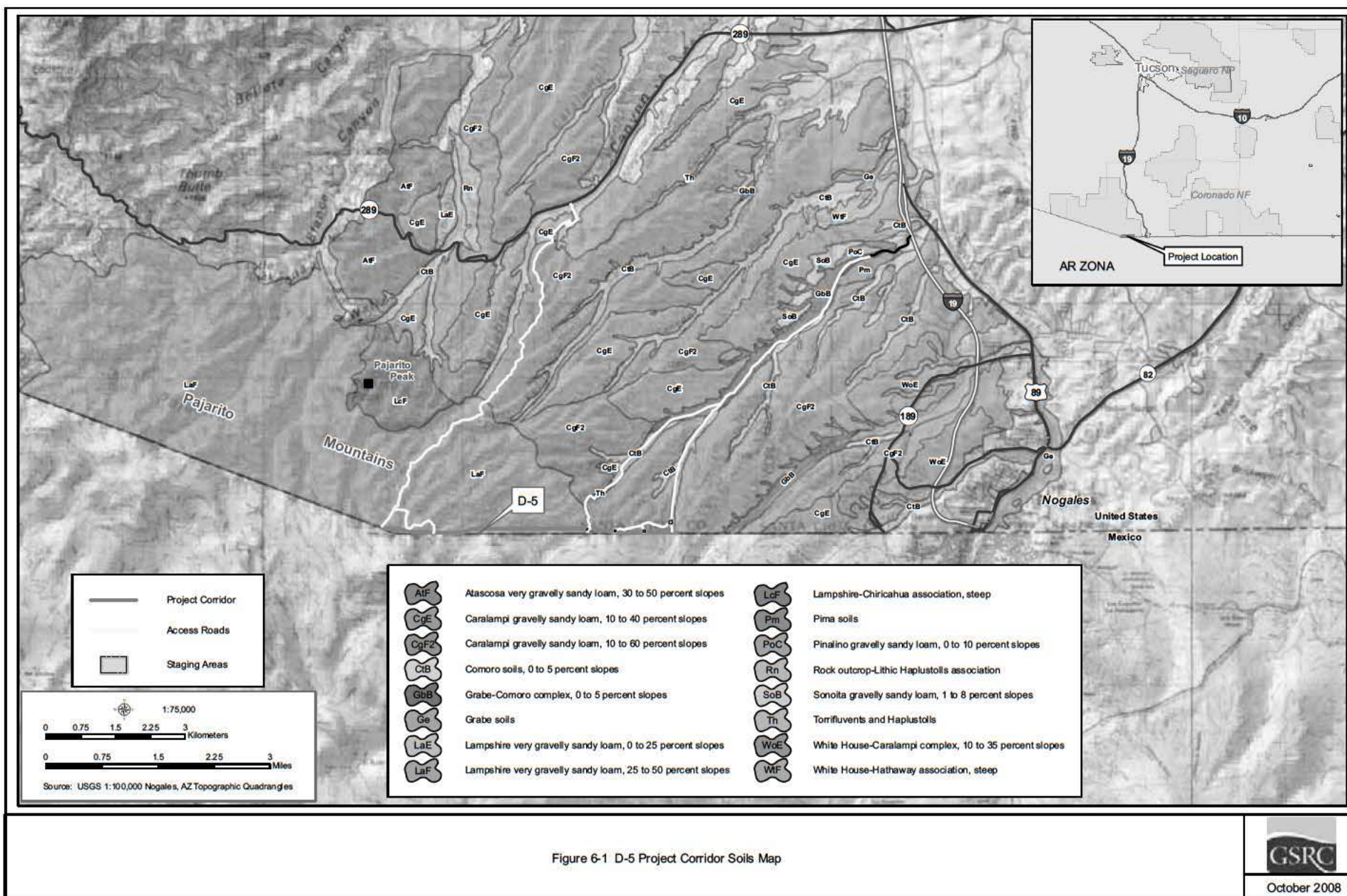
eastern most portion of the Project corridor. These complexes often occur at an elevation ranging from 3,000 to 5,200 feet amsl and on slopes of 10 to 40 and 10 to 60 percent.

The remaining four soil types, Comoro soil, Grabe-Comoro complex, Pima soils, and Torrifluvents and Haplustolls are well drained, are typically found on alluvial fans and floodplains, and on slope ranges of 0 to 5 percent. These soils often occur between 3,000 and 6,000 feet amsl in elevation and are found near the eastern portion of the Project corridor.

6.2 ENVIRONMENTAL CONSEQUENCES

The Project will directly impact approximately 84 acres of soil within the Project corridor, of which approximately 29 acres will be permanently impacted from construction of the primary pedestrian fence and construction/maintenance road and 15 acres will be permanently impacted from improvements to existing access roads. The remaining 38 acres of soil have been previously disturbed by the existing access roads. The staging areas will impact approximately 2 acres, but will be rehabilitated upon completion of construction activities. These soils are common in the general area and are not classified as prime farmland, so the disturbance is considered a negligible impact.

Short-term impacts on soils, such as increased erosion, can be expected from the construction of roads; however, these impacts will be alleviated once construction is finished. Long-term effects on soils will result from the compaction of the soils from road construction and improvement, erosion during storm events, and loss of biological production. Pre- and post-construction BMPs will be developed and implemented to reduce or eliminate erosion and potential downstream sedimentation. Compaction techniques and erosion control measures, such as waterbars, gabions, straw bales, and the use of rip-rap or sediment traps, will be some of the BMPs implemented.



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The temporary operation of portable lights within the construction footprint will have no effect on soils. The potential exists for petroleum, oil, and lubricants (POLs) to be spilled during refueling of the portable lights' generators, adversely impacting soils; however, drip pans will be provided for the power generators to capture any POLs accidentally spilled during maintenance activities or leaks from the equipment; thus, the operation of the portable lights will have negligible impacts.

Installation of the construction/maintenance road may require blasting in certain sections that have large rocks or boulders that create sharp curves, large humps in the road, or other driving hazards that need to be eliminated. Therefore, a minimal to moderate impact on geologic outcrops or formations will occur as a result of the Project.

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SECTION 7.0
WATER USE AND QUALITY

7.0 WATER USE AND QUALITY

7.1 AFFECTED ENVIRONMENT

7.1.1 Hydrology and Groundwater

The Project corridor is located in the Santa Cruz Active Management Area (AMA) (Arizona Department of Water Resources [ADWR] 2007). The Santa Cruz AMA consists of 716 square miles in the Upper Santa Cruz Valley River Basin. The basin is concentrated around a 45-mile reach of the Santa Cruz River from the U.S./Mexico border to a few miles north of the Santa Cruz/Pima County line. Within the U.S., the Santa Cruz River continues northward for 65 miles from Nogales to Tucson, where it continues to the confluence of the Gila River. Groundwater resources in the Upper Santa Cruz River Valley form three aquifer units: the Nogales formation, older alluvium, and younger alluvium (ADWR 2007).

According to the ADWR Third Management Plan (1999), the average total recharge within the Upper Santa Cruz AMA was approximately 98,800 acre-feet per year (AF/yr). In 1995, the total use of groundwater within the AMA by the municipal, agricultural, and industrial sectors totaled approximately 21,000 AF. The projected withdrawal of groundwater from the Santa Cruz AMA for year 2010 is 56,100 AF (ADWR 1999); thus, the recharge in the Upper Santa Cruz AMA exceeds the withdrawal from the aquifer.

7.1.2 Surface Water

The Project corridor is located in the Santa Cruz-Rio Magdalena-Rio Sonoyta (Santa Cruz) watershed as defined by the Arizona Department of Environmental Quality (ADEQ). The Santa Cruz watershed is composed of a number of hydrological features: 1) the Santa Cruz River which flows north to the Gila River and 2) a series of streams that flow south and eventually into the Rio Magdalena and Rio Sonoyta in Mexico. Elevations range from 9,156 feet amsl at Mount Lemmon to about 1,100 feet amsl at the Gila River. Except for a string of high mountains in the east, most of the watershed is below 5,000 feet amsl. The Santa Cruz watershed receives about 15 inches of rain and

up to 1 inch of snow per year. Groundwater pumping has eliminated natural flow in most of the mainstream Santa Cruz River. Treated wastewater effluent provides perennial flow below discharges from the cities of Nogales and Tucson (ADEQ 2007).

Waters of the U.S.

Recent surveys within the Project corridor identified 26 drainages bisecting the Project corridor that might be considered as Waters of the U.S. (WUS) under typical Clean Water Act (CWA) regulations. Due to the climate of the Project area, these surface drainage channels are dry much of the year and are considered ephemeral. The locations of each of the WUS within the Project corridor are identified in Figure 7-1.

7.1.3 Floodplains

Floodplains are low-lying areas adjacent to or within major watersheds that serve to contain excess water during rainfall events. The 100-year flood is generally the standard utilized in management of floodplains. This boundary is based on the elevation in which there is a 1 percent chance that floodwater will reach a designated limit during a rainfall event. According to the Federal Emergency Management Agency (FEMA) floodplain maps (FEMA 1989), approximately 4,300 linear feet (3 acres) of the Project corridor is bisected by a floodplain (Figure 7-2).

7.2 ENVIRONMENTAL CONSEQUENCES

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the CWA for the TI segments addressed in this ESP, the Secretary committed the DHS to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the CWA as the basis for evaluating potential environmental impacts and appropriate mitigations.

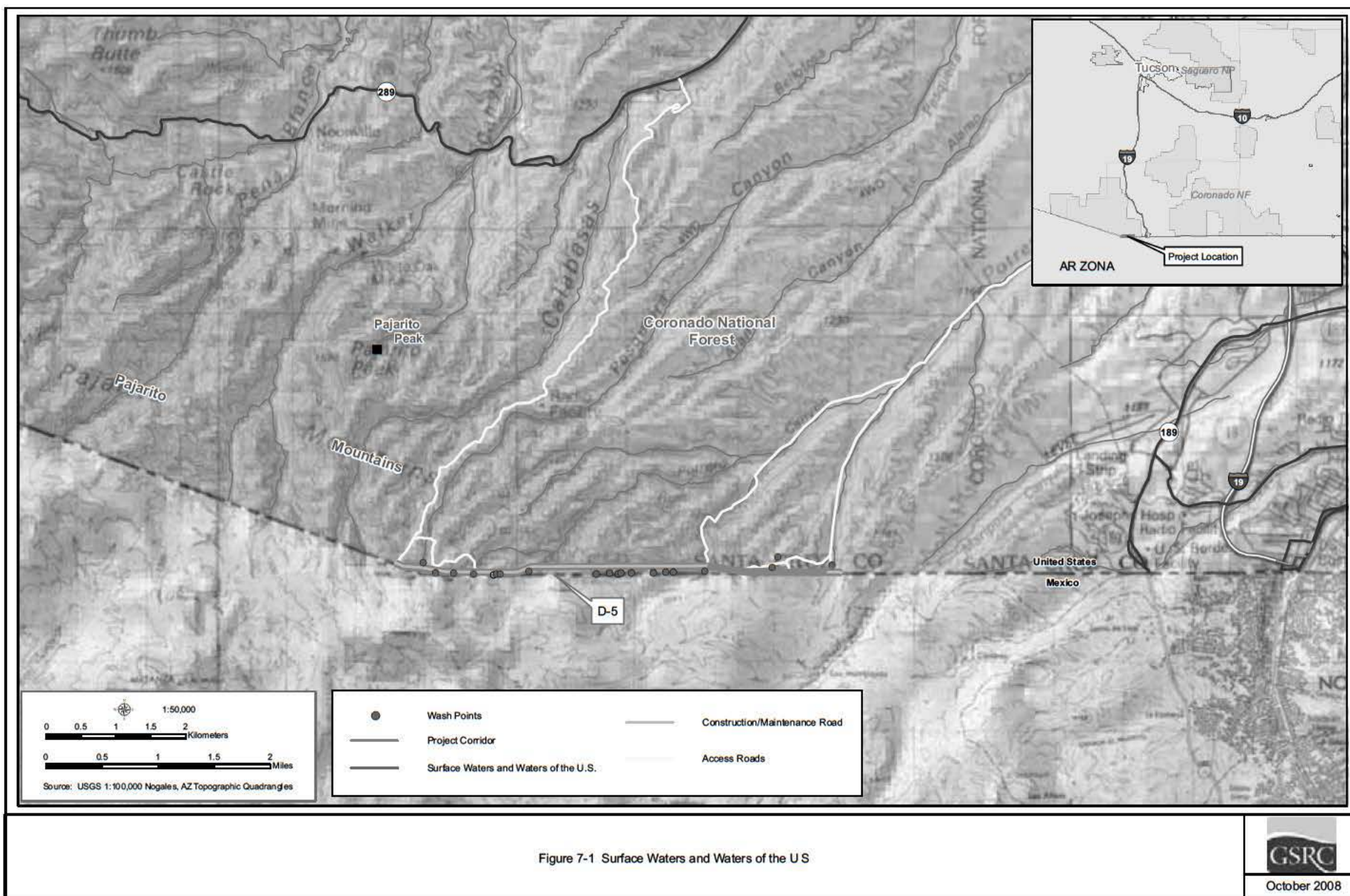
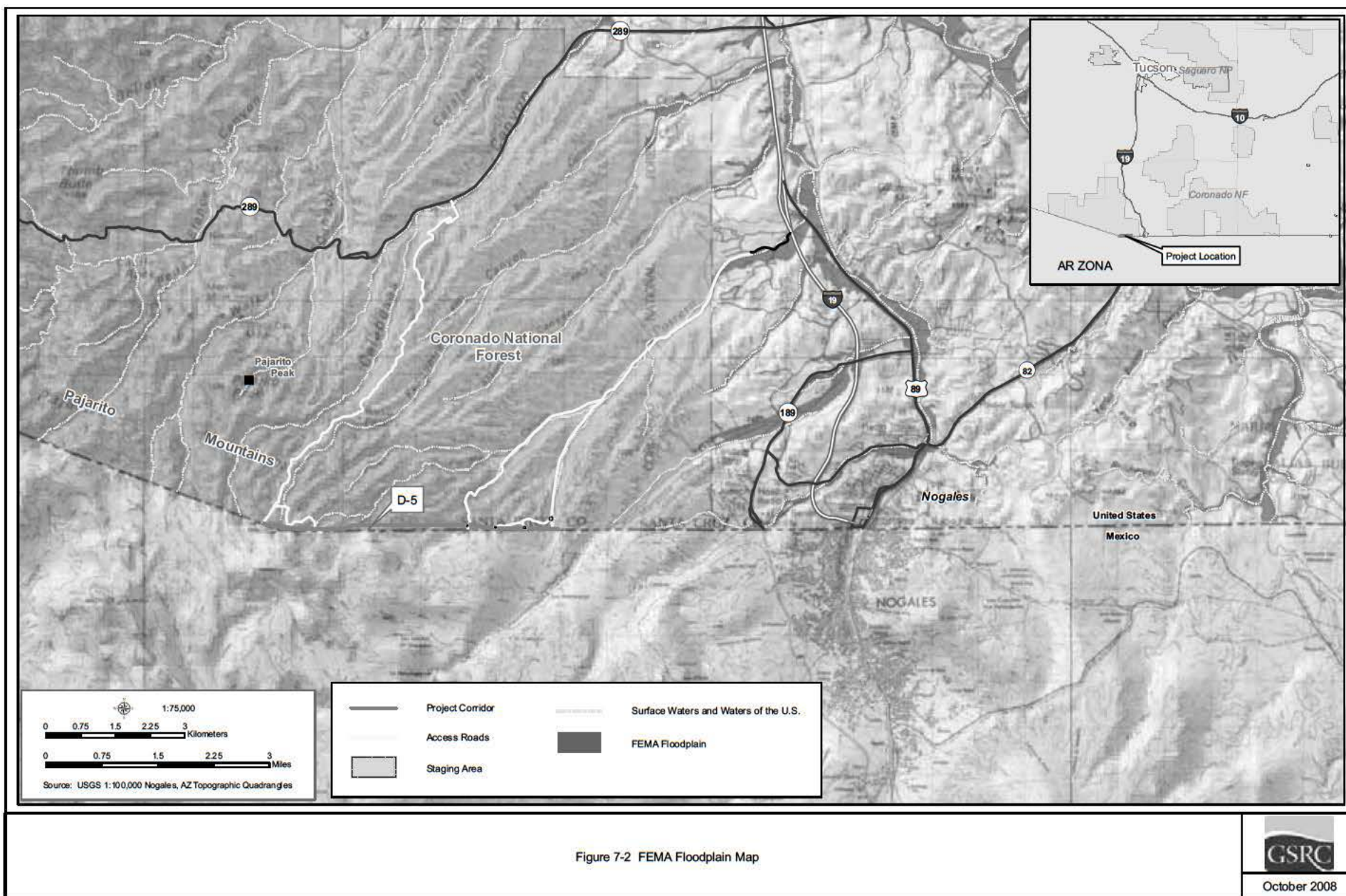


Figure 7-1 Surface Waters and Waters of the U.S



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7.2.1 Groundwater

The Project will require water for the pedestrian fence installation, watering of new construction/maintenance/access road surfaces, and fugitive dust suppression during construction activities. The water used to install pedestrian fence and compact and construct the new construction/maintenance road averages 1.7 acre-foot per mile (554,000 gal) of new road construction (Miranda 2006). Widening and resurfacing existing access roads requires approximately 1 acre-foot per mile (325,841 gallons). The Project includes approximately 4 miles of pedestrian fence, 4 miles of construction/maintenance road, and 16 miles of access road improvements. The estimated total water usage for the Project is approximately 29 acre-feet.

The water use figure (29 acre-feet) is minimal compared to the volume used annually for municipal, agricultural, industrial, and cultural purposes, and since the total recharge rate for the Upper Santa Cruz AMA exceeds the withdrawal from the aquifer, the Project will have minimal impact on the region's groundwater. Water not lost to evaporation during watering of construction/maintenance/access road surfaces during construction will potentially contribute to aquifer recharge through downward seepage. The construction of pedestrian fence and a construction/maintenance road, as well as improvements to the existing access roads, will not substantially alter natural drainage patterns. The construction/maintenance/access roads will be surfaced with gravel and will not create impermeable surfaces. The construction of a construction/maintenance road and improvements to existing access roads will not interfere with groundwater recharge.

7.2.2 Surface Water

With the implementation of the Project, the total impact on the 26 potential WUS will be less than 1 acre. The fence designs will be provided to USIBWC for recommendations that could be implemented to avoid impediments to international stream flow within either country. Additionally, CBP will remove woody debris after each rain event, as necessary, to provide proper conveyance of flood waters.

During the construction period, erosion, downstream sedimentation, and accidental spills or leaks could have temporary and minor effects on surface water quality. However, with proper implementation of BMPs, as identified in the current SWPPP and SPCCP for the ongoing construction, these effects will be substantially reduced or eliminated.

The Project will not substantially alter existing drainage patterns or substantially affect water quality. Thus, the Project will have minimal impact on the region's surface waters.

7.2.3 Floodplains

Within the Project corridor, approximately 0.81 miles (3 acres) of existing access road are bisected by a floodplain. The only impact to the floodplain as a result of the Project will occur due to road improvements. Road improvements may include widening of the road from the 10- to 12-foot width by about 8 feet (total 20 feet wide). Some straightening may be required as well. The impact will be less than 1 acre.

During the construction period, erosion, downstream sedimentation, and accidental spills or leaks could have temporary and minor effects on the floodplain. However, with proper implementation of BMPs, as identified in the current SWPPP and SPCCP for the ongoing construction, these effects will be substantially reduced or eliminated. Therefore, the overall impact as a result of the Project will be minimal.

SECTION 8.0
BIOLOGICAL RESOURCES
(VEGETATION, WILDLIFE, AQUATIC SPECIES, SPECIAL STATUS SPECIES)

8.0 BIOLOGICAL RESOURCES (VEGETATION, WILDLIFE, AQUATIC SPECIES, SPECIAL STATUS SPECIES)

8.1 AFFECTED ENVIRONMENT

8.1.1 Vegetation

Madrean Evergreen Woodland

The Madrean Evergreen Woodland community is the only vegetative community present within the Project corridor (Figure 8-1). This community is typified by open woodlands or savanna, occupied by xeric tolerant trees and shrubs interspersed with grasses, forbs, and cacti (Brown 1973). Vegetative and wildlife surveys of the Project corridor were performed by GSRC in May and July 2008. In the Project corridor, the vegetative community is characterized by a relatively diverse assemblage of species tolerant to xeric conditions. The tree canopy vegetation is represented by Emory oak (*Quercus emoryi*), Palmer oak (*Quercus palmeri*), velvet mesquite (*Prosopis velutina*), Arizona white oak (*Quercus arizonica*), alligator juniper (*Juniperus deppeana*), Fremont cottonwood (*Populus fremontii*), Arizona sycamore (*Platanus wrightii*), and Arizona walnut (*Juglans major*). Tree canopy individuals are present as a relatively open canopy ranging from 20 to 40 feet tall. The shrub stratum is represented by smaller canopy species as well as point leaf manzanita (*Arctostaphylos pungens*), skunk bush (*Rhus trilobata*), littleleaf false tamarind (*Lysiloma watsonii*), ocotillo (*Fouquieria splendens*), desert broom (*Baccharis sarothroides*), fairy duster acacia (*Calliandra eriophylla*), agave (*Agave* spp.), Gentry's indigobush (*Dalea tentaculoides*), Bigelow's nolina (*Nolina bigelovii*), feather bush (*Lysiloma thornberi*), wait-a-minute bush (*Mimosa biuncifera*), white ball acacia (*Acacia angustissima*), seep willow (*Baccharis salicifolia*), Schott's yucca (*Yucca schottii*), and banana yucca (*Yucca baccata*). The herbaceous layer, though often very sparse, is relatively high in species richness. Groundcover associated plants included coral bean (*Erythrina herbacea*), sotol (*Dasylirion* spp.), bear grass (*Bolina microcarpa*), poison ivy (*Toxicodendron radicans*), smooth bouvardia (*Bouvardia ternifolia*), and canyon grape (*Vitis arizonica*).

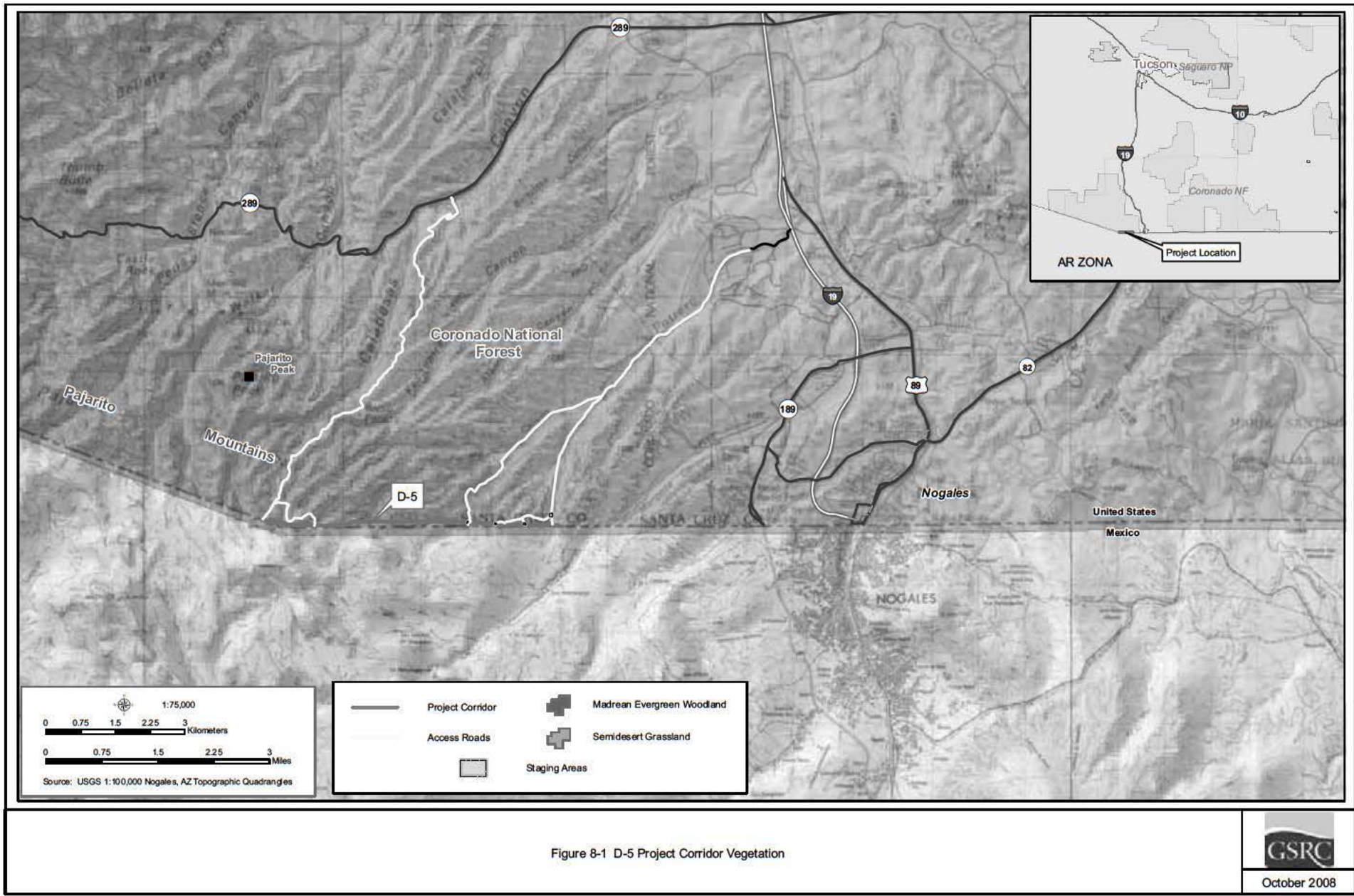
The sparse herbaceous layer beneath typically consisted of grasses and did not support leafed succulents or cacti. As with the majority of areas within the Project corridor, heavy cattle grazing was evident in this community. Cacti representatives present in the groundcover stratum include beavertail (*Opuntia basilaris*), beehive (*Coryphantha* spp.), rainbow (*Echinocereus pectinatus*), fish hook barrel (*Mammillaria* spp.), in addition to pencil and whipple cholla (*Cylindropuntia arbuscula* and *C. whipplei*, respectively).

8.1.2 Wildlife and Aquatic Resources

Wildlife within the Project corridor are typical of those associated with the Madrean Evergreen Woodland community. This community is typified by open woodlands or savanna, occupied by xeric tolerant trees and shrubs interspersed with grasses, forbs, and cacti (Brown 1973). Wildlife surveys of the Project corridor were performed by GSRC in May and July 2008. Table 8-1 contains the wildlife observed during these surveys. Within the Project corridor, the wildlife community will be characterized by species that are tolerant of xeric conditions and neotropical avifauna within a migratory route.

Common mammals associated with Madrean Woodlands are white-tailed deer (*Odocoileus virginianus*), black-tailed jackrabbit (*Lepus californicus*), eastern cottontail (*Sylvilagus floridanus*), coati (*Nasua nasua*), and many rodents including the yellow-nosed cotton rat (*Sigmodon ochrognathus*) and Bailey's pocket mouse (*Perognathus baileyi*) (Burt and Grossheider 1976).

Diverse assortments of birds utilize these woodlands or pass through on migratory routes. Southeastern Arizona supports large numbers of hummingbirds, particularly during southbound migration (Hummingbird Monitoring Network 2008). Several species of hummingbirds migrate through the Project area, including the magnificent hummingbird (*Eugenes fulgens*), black-chinned humminbgbird (*Archilochus alexandri*) and blue-throated hummingbirds (*Lampornis clemenciae*). Gambel's quail (*Callipepla gambelii*), scaled quail (*Callipepla squamata*) and mourning dove (*Zenaida macroura*)



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thrive in this habitat. Elf Owl (*Micrathene whitneyi*), ash-throated flycatcher (*Myiarchus cinerascens*), blue-gray gnatcatcher (*Polioptila caerulea*), Scott's oriole (*Icterus parisorum*) and spotted towhee (*Pipilo maculatus*) are more common in dense brush (Ganey et al. 1996). Other species prefer open forest conditions. Examples of these include: American kestrel (*Falco sparverius*), Cassin's kingbird (*Tyrannus vociferans*), curve-billed thrasher (*Toxistoma curvirostre*) common nighthawk (*Chordeiles minor*), purple martin (*Progne subis*), chipping sparrow (*Spizella passerina*), and both eastern (*Sialia sialis*) and western (*S. mexicana*) bluebirds (Ganey et al. 1996).

Table 8-1. Wildlife Observed during Field Surveys.

Common Name	Scientific Name
MAMMALS	
Eastern cottontail	<i>Sylvilagus floridana</i>
Coyote	<i>Canis latrans</i>
Black-tailed jackrabbit	<i>Lupus californicus</i>
White-tailed deer	<i>Odocoileus virginianus</i>
BIRDS	
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>
Black-capped chickadee	<i>Poecile atricapillus</i>
Indigo bunting	<i>Passerina cyanea</i>
Bridled titmouse	<i>Parus wollweberi</i>
Mourning dove	<i>Zenaida macroura</i>
Mountain blue bird	<i>Sialia currucoides</i>
Phainopepla	<i>Phainopepla nitens</i>
Scaled quail	<i>Callipepla squamata</i>
Chihuahuan raven	<i>Corvus cryptoleucus</i>
Turkey vulture	<i>Cathartes aura</i>
White crowned sparrow	<i>Zonotrichia leucophrys</i>
Scrub jay	<i>Aphelocoma coerulescens</i>
REPTILES & AMPHIBIANS	
Chorus frog	<i>Pseudacris</i> sp.
Western diamond-backed Rattlesnake	<i>Crotalus atrox</i>
Side-blotched lizard	<i>Uta stansburiana</i>
Spiny lizards	<i>Sceloporus</i> spp.
Whiptail lizards	<i>Aspidoscelis</i> spp.
Tree lizard	<i>Urosaurus ornatus</i>

Snakes and lizards are common in the Project area. There are many species of non-venomous snakes such as the Sonoran mountain kingsnake (*Lapropoeltis pyromelana*), Mexican garter snake (*Thamnophis eques*), and mountain patchnosed snake (*Salvadora grahamiae*) as well as highly venomous snakes. Rattlesnakes (*Crotalus*

spp.) are the most common venomous snake in the Project area, but there are other venomous snakes such as the Arizona coral snake (*Micruroides euryxanthus*) (Stebbins 2003).

Lizards thrive in the arid Arizona climate. The two most common genera of lizards are spiny lizards (*Sceloporus* spp.) and whiptailed lizards (*Aspidoscelis* spp.). Other lizards include the Madrean alligator lizard (*Elgaria kingii*), the collared lizard (*Crotaphytus collaris*), and the zebra-tailed lizard (*Callisaurus draconoides*) (Stitt et al. 2005).

There are very few species of turtles in Arizona, with only two species inhabiting the Project area. The Sonoyta mud turtle (*Kinosternon sonoriensis longifemorale*) inhabits seeps and streams in Madrean evergreen communities (Avila-Jiménez 2005). The desert box turtle (*Terrepenne ornata luteola*) is found at the ecotone of semi-arid grasslands and Madrean evergreen forest (Tuegel 2007).

There are several species of amphibians occurring in the American Madrean woodlands. There are 18 species of frogs to include: true toads (*Bufo* spp), true frogs (*Rana* spp), and spadefoot toads (*Scaphiopus* spp.and *Spea* spp.).

8.1.3 Protected Species and Critical Habitat

8.1.3.1 Federal

A total of 16 Federally listed species and three candidate species for Federal protection (Table 8-2) have the potential to occur within Santa Cruz County (USFWS 2008). Of these, six are potentially found within or near the Project corridor. Designated Critical Habitat for one species, the Mexican spotted owl (*Strix occidentalis lucida*), occurs within the Project construction footprint. A brief description of these six species and one Critical Habitat designation occurring or potentially occurring within the Project corridor is presented in the following paragraphs.

Table 8-2. Federally-listed and Proposed Species Potentially Occurring within Santa Cruz County, Arizona

Common/Scientific Name	Federal Status	Habitat	Potential to Occur within the Project Region
PLANTS			
Canelo Hills ladies'-tresses (<i>Spiranthes delitescens</i>)	E	Finely grained, highly organic, saturated soils of cienegas (USFWS 2008).	No – No saturated soils located in the Project corridor.
Huachuca water umbel (<i>Lilaeopsis schaffneriana</i> spp. <i>recurva</i>)	E	Cienegas or marshy wetlands within Sonoran desertscrub, grassland or oak woodland, and conifer forest in shallow water, saturated soil near seeps, springs and streams (AGFD 2003).	No – Species occurs in the Santa Cruz River which is located east of the Project corridor.
Pima pineapple cactus (<i>Coryphantha scheeri</i> var. <i>robustispina</i>)	E	Ridges and alluvial fans in lower Sonoran Desertscrub and Semi-desert Grassland. Habitat dominated by whitethorn acacia (<i>Acacia constricta</i>), velvet mesquite, snake weed, triangleleaf bursage, and various other cacti and grasses (AGFD 2001a).	Yes – Nogales represents the southernmost portion of its range; however, none were observed within the Project corridor footprint.
INVERTEBRATES			
Stephan's riffle beetle (<i>Hetrelmis stephani</i>)	C	Free-flowing springs and seeps. Sylvester Spring in Madera Canyon on the Coronado National Forest (USFWS 2008).	No –The Project corridor is not located in known habitat.
Huachuca springsnail (<i>Pyrgulopsis thomsoni</i>)	C	Aquatic areas, small springs with vegetation and slow to moderate flow at Fort Huachuca (USFWS 2008).	No – No suitable habitat present.
BIRDS			
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	C	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries) (USFWS 2008).	No – No suitable habitat is present.
California brown pelican (<i>Pelecanus occidentalis californicus</i>)	E	Coastal land and islands; species found around many Arizona lakes and rivers (USFWS 2008).	No – No suitable habitat present.
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	T	Nests in canyons and dense forests with multi-layered foliage structure (USFWS 2008).	Yes – The Project corridor is located within Designated Critical Habitat (USFWS 1993).

Table 8-2. continued

Common/Scientific Name	Federal Status	Habitat	Potential to Occur within the Project Region
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	E	Cottonwood/willow and tamarisk vegetation communities along rivers and streams (USFWS 2008).	No – No suitable habitat present.
AMPHIBIANS			
Chiricahua leopard frog (<i>Rana chiricahuensis</i>)	T	Streams, rivers, backwaters, ponds, and stock tanks that are mostly free from introduced fish, crayfish, and bullfrogs (USFWS 2008).	Yes – Potentially suitable habitat may exist within the project corridor during the rainy season (July through September).
Sonora tiger salamander (<i>Ambystoma tigrinum stebbinsi</i>)	E	Stock tanks and impounded cienegas in San Rafael Valley, Huachuca Mountains (USFWS 2008).	No – Species occurs in the San Rafael Valley which is located east of the Project corridor.
MAMMALS			
Jaguar (<i>Panthera onca</i>)	E	Found in Sonoran desert scrub up through subalpine coniferous forests (USFWS 2008).	Yes – Sightings have been documented within the CNF.
Lesser long-nosed bat (<i>Leptonycteris curasoae yerbabuena</i>)	E	Desert scrub habitat with agave and columnar cacti present as food plants (USFWS 2008).	Yes – Potential foraging habitat but no suitable roosting habitat present.
Ocelot (<i>Leopardus pardalis</i>)	E	Humid tropical and sub-tropical forests, savannahs, and semi-arid thornscrub (USFWS 2008).	Yes – Potentially suitable habitat exists in densely vegetated areas along washes.
FISHES			
Desert pupfish (<i>Cyprinodon macularius</i>)	E	Shallow springs, small streams, and marshes (USFWS 2008).	No – Native Arizona populations located in Organ Pipe Cactus National Monument.
Gila chub (<i>Gila intermedia</i>)	E	Pools, springs, cienegas, and streams (USFWS 2008).	No – No suitable habitat present.
Gila topminnow (<i>Poeciliopsis occidentalis occidentalis</i>)	E	Small streams, springs, cienegas and vegetated shallows (USFWS 2008).	No – No suitable habitat present.
Sonora chub (<i>Gila ditaenia</i>)	T	Perennial and intermittent small to moderate streams with boulders and cliffs (USFWS 2008).	No – The Project corridor is not located in known habitat.

Legend: E – Endangered T – Threatened C – Candidate

Source: USFWS 2008

Jaguar

The jaguar is the largest and most robust of the North American cats. The southwestern U.S. and Sonora, Mexico, are the extreme northern limits of the jaguar's range, which primarily extends from central Mexico, south through Central and South America to northern Argentina (Hatten et al. 2002). The jaguar is found near water in the warm tropical climate of savannahs and forests. Information on jaguar ecology and behavior, especially at the northern edge of the species' range, is very limited. The jaguars home range is highly variable and is dependent on topography, prey abundance and availability, and the population density of area jaguars (Brown and Gonzalez 2001). Jaguar distribution patterns over the last 50 years and recent observations of individuals suggest that southeast Arizona is the most likely area for future jaguar occurrence in the U.S. (Hatten et al. 2002). No jaguars, scat, or tracks were observed during the May and July 2008 surveys.

Ocelot

The historic range of the ocelot includes Texas, Louisiana, Arkansas, and Arizona south through Mexico, Central America, and South America to eastern Peru, eastern Bolivia, Paraguay, Uruguay, and northern Argentina. This feline species occurs in the mountains of Colombia, Ecuador, and northern Peru, but not on the high plateaus of southern Peru and Bolivia; recently recorded in Uruguay; to elevations of 1,000 meters. In the United States, the species is currently found regularly only in southern Texas (e.g., Laguna Atascosa National Wildlife Refuge, site of a recent radiotelemetry study). Occurrence in Arizona is based only on a few old records from the vicinity of Fort Verde and Patagonia; documentation for these records is less than ideal (NatureServe 2008).

The critical component in suitable habitat for the ocelot is dense cover. The minimum acreage required for an area to be classified as suitable habitat is 99 acres of brush or 74 acres of two or more proximate brush stands (USFWS 1990). Dense brush areas along ridges and within canyons in the Project corridor could provide suitable ocelot habitat. No ocelots, scat, or tracks were observed during the May and July 2008 surveys.

Lesser long-nosed bat

The lesser long-nosed bat's range extends from southern Arizona and extreme southwestern New Mexico, through western Mexico, south to El Salvador (USFWS 1997). The lesser long-nosed bat primarily utilizes natural caves and abandoned mines for roosting, but can transiently roost among overhanging rocks and other shelters. Occupied roosts have been documented from eastern portions of the Cabeza Prieta National Wildlife Refuge, north as far as Phoenix, and east as far as the Animas Valley in New Mexico (Cockrum and Petryszyn 1991) (Figure 8-2). Use of roosting sites may vary depending upon seasonal fluctuations in the timing of forage availability. Thus, some roosts may be occupied or unoccupied through parts or all of a breeding season.

Female lesser long-nosed bats arrive at known maternity roosts in southwest Arizona as early as April continuing through mid-July (USFWS 1997). These maternity colonies begin to disband by September. Both males and females can be found in transient or maternity roosts from September to as late as early November. The bats eat nectar and fruits of columnar cacti and nectar of paniculate agaves, as such, they are considered to be an important dispersal and pollination vector for these species. Lesser long-nosed bats are known to travel 30 miles to reach suitable concentrations of forage.

Although no potential roosts were observed within or adjacent to the Project corridor during the May and July 2008 surveys, at least one roost is known to occur within 5 miles of the Project corridor (Figure 8-2). Scattered agave was observed throughout the Project corridor at very low densities.

Pima pineapple cactus

The Pima pineapple cactus is found at elevations between 2,300 and 4,500 feet amsl in Pima and Santa Cruz counties. Pima pineapple cacti are 4 to 18 inches tall, dome-shaped, with silky yellow flowers that bloom in early July with summer rains (58 CFR 49875). They are found in alluvial basins or on hillsides in semi-desert grassland and Sonoran desertscrub. The Project corridor lies in the southernmost portion of the Pima pineapple cacti's known range. The species occupies habitats that are flat and sparsely

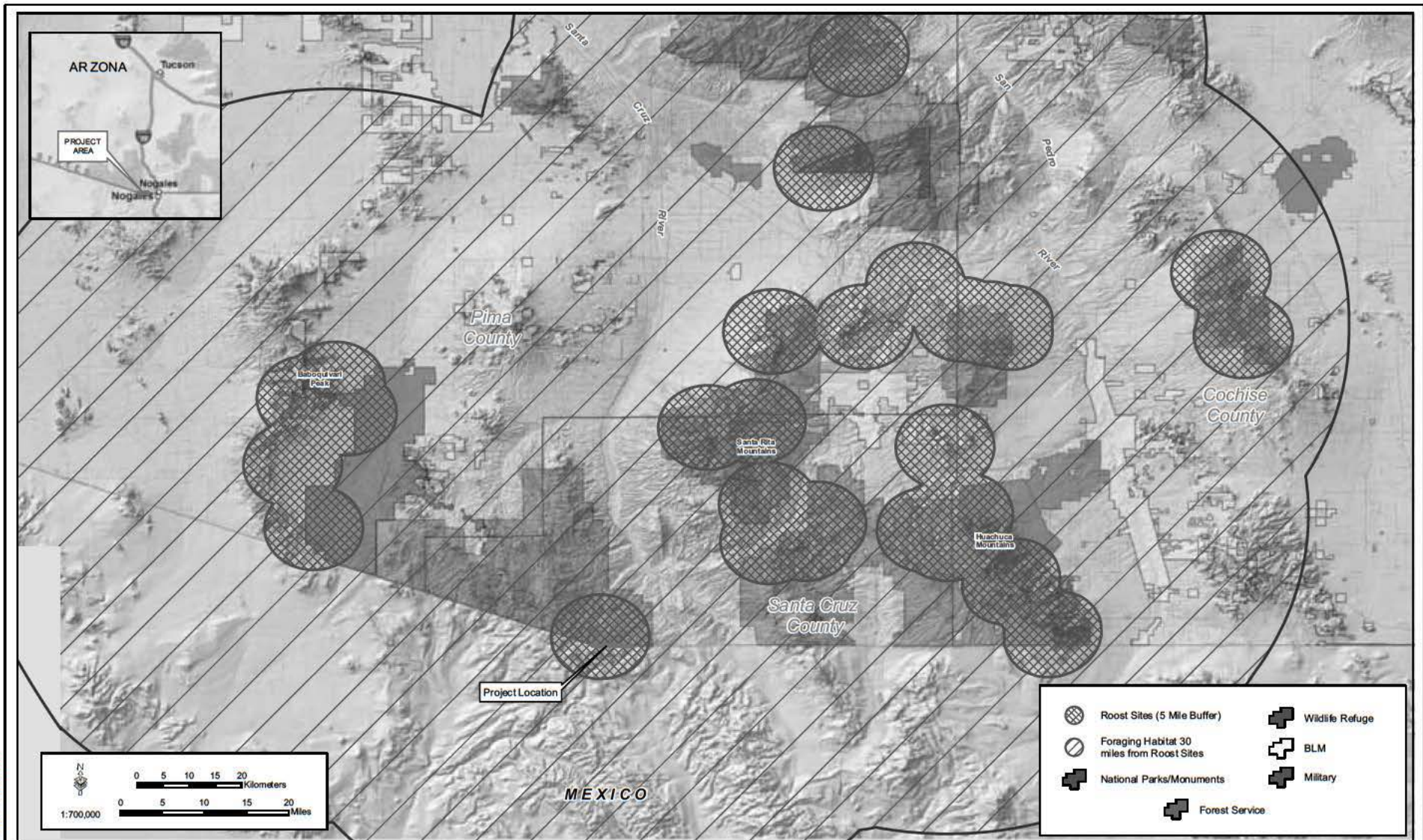


Figure 8-2 Distribution of the Lesser Long-nosed Bat in Relation to the D-5 Project Corridor



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vegetated. Suitable habitat for the Pima pineapple cactus exists throughout the Project corridor; however, no Pima pineapple cacti were observed within the Project footprint during the May and July 2008 surveys.

Mexican spotted owl

In the U.S., the Mexican spotted owl occupies warm-temperate and cold-temperate forests from the southern Rocky Mountains in Colorado and the Colorado Plateau in southern Utah southward through Arizona and New Mexico (USFWS 1993). A discontinuous population also occurs in Mexico with a range extending from the Sierra Madre Occidental and Oriental mountains southward to the southern end of the Mexican Plateau. In southeast Arizona, the species typically occurs in mixed-conifer forests; however, the species utilizes a variety of habitat types throughout its range. Habitat characteristics which favor the Mexican spotted owl are usually found in old growth forests at least 200 years of age. These characteristics include a dense multi-layered canopy with numerous snags and downed woody matter. Nesting habitat is commonly associated with at least some old-growth trees, steep slopes at elevations from 6,000 to 8,000 feet amsl, and a northern or eastern aspect.

Nesting pairs typically establish a home range of about 1,000 acres which provides year-round access to nesting, roosting, and foraging areas (USFWS 1993). Nesting has been observed on a variety of substrates including artificial platforms, tree cavities, and cliff ledges. Male and female owls begin roosting together in February and the female begins laying eggs as early as March. Incubation lasts 30 days and most eggs are hatched by the end of May. Fledging occurs from May through October when young owls become fully independent. Mexican spotted owls prey on a variety of small animals hunting from perches and attacking over short distances.

The structural characteristics of habitat occupied by the Mexican spotted owl vary depending upon the subspecies use of the habitat and changes in plant communities over the subspecies range (USFWS 2004). However, life history requirements of the Mexican spotted owl are met by similar conditions throughout its range. In order to

support a breeding pair on a year-round basis, sufficient habitat must occur within the home range and in an appropriate configuration to provide for foraging, roosting, sheltering, nesting, and rearing. Primary constituent elements are grouped by forest and canyon habitats to reflect differences in elements of these habitats which meet life history requirements and by elements related to maintenance of adequate prey species.

Primary constituent elements related to forest structure include:

- A range of tree species, including mixed conifer, pine-oak, and riparian forest types, composed of different tree sizes reflecting different ages of trees, 30 percent to 45 percent of which are large trees with a trunk diameter of 12 inches or more when measured at 4.5 feet from the ground;
- A shade canopy created by the tree branches covering 40 percent or more of the ground; and
- Large dead trees (snags) with a trunk diameter of at least 12 inches when measured at 4.5 feet from the ground.

Primary constituent elements related to canyon habitat include one or more of the following:

- Presence of water (providing cooler and often higher humidity than the surrounding areas);
- Clumps or stringers of mixed-conifer, pine-oak, pinyon-juniper, and/or riparian vegetation;
- Canyon wall containing crevices, ledges, or caves; and,
- High percent of ground litter and woody debris.

Primary constituent elements related to maintenance of adequate prey species include:

- High volumes of fallen trees and other woody debris;
- A wide range of tree and plant species, including hardwoods; and,
- Adequate levels of residual plant cover to maintain fruits, seeds, and allow plant regeneration.

Designated Critical Habitat includes the majority of known Mexican spotted owl breeding sites. Critical Habitat unit BR-W-13 occurs within the Project region and construction area (Figure 8-3).

Chiricahua leopard frog

The Chiricahua leopard frog is one of seven known leopard frogs found in Arizona (AGFD 2006). This species lives in a variety of water sources including rocky streams with deep rock-bound ponds, river overflow pools, oxbows, permanent springs, stock tanks, and ponds (AGFD 2006). The riparian habitat along these water bodies generally consists of oak and mixed oak and pine woodlands, but it can also range into areas of chaparral, grassland, and even desert.

The Chiricahua leopard frog's range includes mountain regions of central and southeastern Arizona; southwestern New Mexico, from the Sierra Madre Occidental south to Chihuahua and Durango, Mexico (AGFD 2006). Its Arizona range is divided into two portions: from montane central Arizona east and south along Mogollon Rim to montane, parts of western New Mexico; and the southeastern montane sector of Arizona and portions of Sonora, Mexico (Platz and Mecham 1979). Monument Tank may provide suitable habitat to support the Chiricahua leopard frog during the monsoon season.

8.1.3.2 State

The Arizona Natural Heritage Program (ANHP) maintains a list of species with special status in Arizona. The ANHP list includes flora and fauna whose occurrence in Arizona is or may be in jeopardy, or has known or perceived threats or population declines (AGFD 2008). The ANHP list is provided in Appendix D. These species are not necessarily the same as those protected under the ESA of 1973, as amended.

The Project corridor could be considered suitable habitat for various state sensitive bird, mammal, and plant species. The only Santa Cruz County listed species observed

during the pedestrian surveys was the Santa Cruz beehive cactus (*Coryphantha recurvata*).

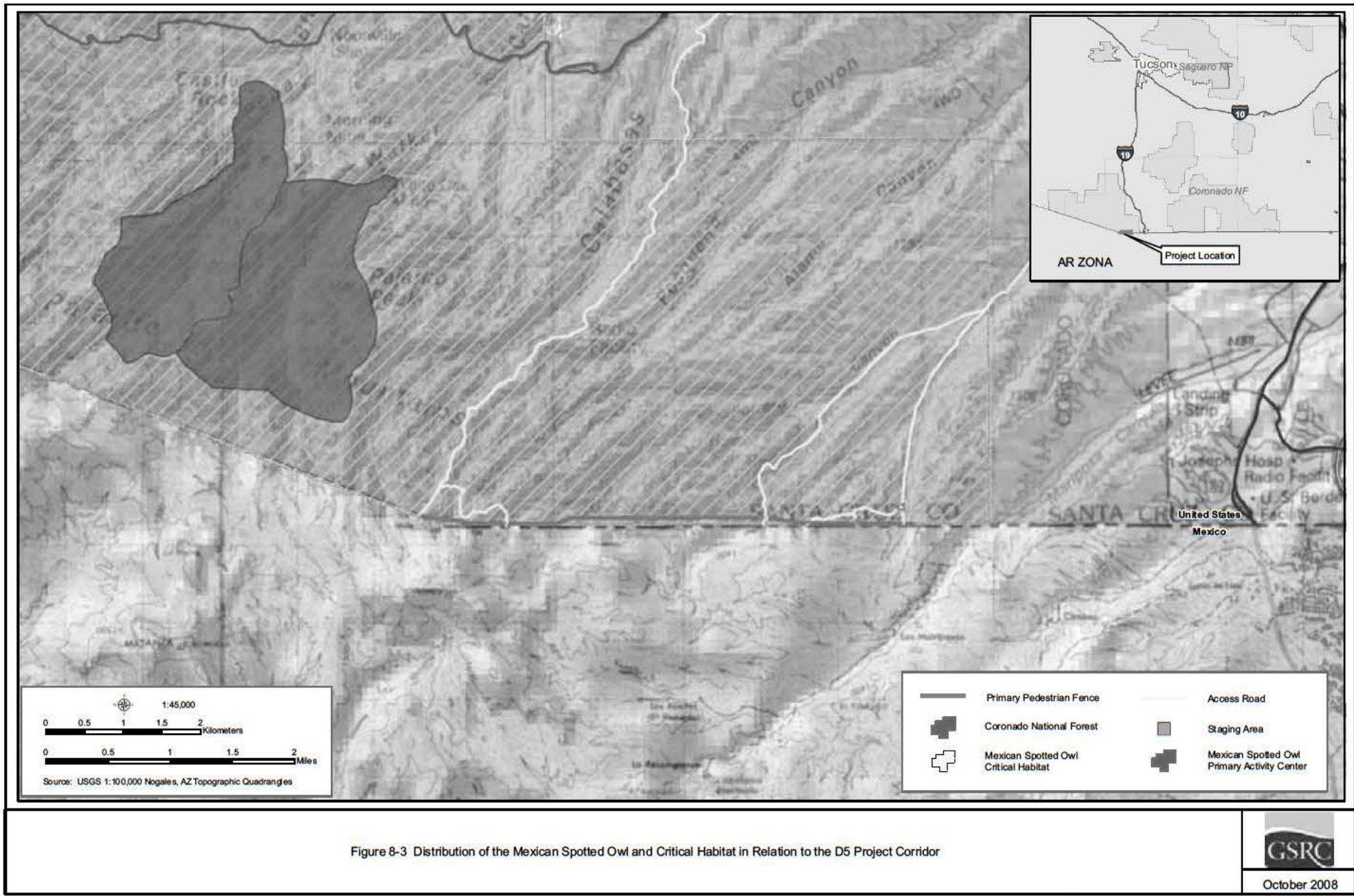
8.2 ENVIRONMENTAL CONSEQUENCES

8.2.1 Vegetation

The Project will have minimal impacts to vegetation communities. Equipment used during the construction of the primary pedestrian fence and construction/maintenance road and improvements to the existing access roads will cause permanent impacts to approximately 44 acres of Madrean Evergreen Woodland vegetation within the Project corridor. Temporary impacts to approximately 2 acres of Madrean Evergreen Woodland vegetation will result from the construction of staging areas implemented by the Project. Additional long-term degradation could occur as a result of soil erosion on the extreme slopes in the Project corridor. BMPs will be developed to minimize the potential impacts. General BMPs to minimize soil disturbance and control erosion, as well as long-term road maintenance will minimize these impacts. Additionally, the reduction of illegal traffic north of the planned and proposed TI will have beneficial cumulative impacts on vegetation communities in the region.

8.2.2 Wildlife and Aquatic Resources

The wildlife likely to use the Project corridor are typically common and abundant throughout the southwest deserts. The Project will permanently remove 44 acres of habitat and temporarily degrade 2 acres. Mobile animals (e.g., birds) will escape to areas of similar habitat, while other slow or sedentary species of reptiles, amphibians, and small mammals could potentially be lost. Predators and scavengers could be attracted to the area to consume dead wildlife. As a result, direct minor adverse impacts on wildlife species in the vicinity of the Project corridor are expected. Although some animals may be lost, this Project will not result in any substantial reduction of the breeding opportunities for birds and other animals on a regional scale due to the suitable, similar habitat adjacent to the Project corridor.



Tucson Sector Tactical Infrastructure

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Impacts on migratory birds include direct loss of habitat (e.g., escape cover, foraging, roosting, and nesting), and are also dependent upon timing of fence construction. For example, any nesting birds found within the Project footprint will be avoided or relocated by a qualified biologist. There could also be a benefit for migratory birds due to the reduction of foot traffic through the habitats. Mitigation measures will be implemented to ensure minimal impacts on migratory birds.

Increased noise during construction activities could have short-term impacts on wildlife species (e.g., mule deer, red-tailed hawk, and desert cottontail). Physiological responses from noise range from minor responses, such as an increase in heart rate, to more damaging effects on metabolism and hormone balance. Long-term exposure to noise can cause excessive stimulation to the nervous system and chronic stress that is harmful to the health of wildlife species and their reproductive fitness (Fletcher 1990). Behavioral responses vary among species of animals and even among individuals of a particular species. Variations in response may be due to temperament, sex, age, or prior experience. Minor responses include head-raising and body-shifting, and usually, more disturbed mammals will travel short distances. Panic and escape behavior results from more severe disturbances, causing the animal to leave the area (Busnel and Fletcher 1978). Since the highest period of movement for most wildlife species occurs during nighttime or low daylight hours, and construction activities will be conducted during daylight hours to the maximum extent practicable, short-term impacts of noise on wildlife species are expected to be minimal to moderate.

The operation of portable construction lighting could potentially affect wildlife. Some species, such as insectivorous bats, may benefit from the concentration of insects that will be attracted to the lights. However, the portable lights will only illuminate a minimal amount of area (200 feet per light), will be fitted with backlighting shields, will not shine into riparian areas (because none are present in the Project corridor), and will be temporary. The adverse and beneficial effects of lighting on reptiles and amphibians are currently unknown (Rich and Longcore 2006). However, the temporary exposure to light as a result of the Project will not significantly alter circadian rhythms in mammals

and birds. This artificial lighting may cause activity levels of diurnal animals to increase; however, any increase will not create major impacts (Rich and Longcore 2006). It is anticipated that the temporary lights will not operate any longer than 4 weeks in one location, no more than 0.5 mile of lights will be in operation at any one time, and no more than 10 lights will be used at once at each Project location. The generators used for these lights produce noise levels as high as 75 dBA within 20 feet of the generators, but attenuate to acceptable levels of 65 dBA at 75 feet (California Department of Transportation 1998). Noise emissions from the generators will create minimal temporary impacts. Wildlife will not be exposed to construction lighting once the Project is complete. Therefore, impacts on wildlife are expected to be negligible and temporary a result of the operation of portable lights.

Construction and operation of TI will increase border security in the Project corridor and may result in a change to illegal traffic patterns. However, changes to IA traffic patterns result from a myriad of factors and therefore are considered unpredictable and beyond the scope of this ESP. Beneficial indirect impacts will be expected from the protection afforded to areas north of the Project corridor.

8.2.3 Protected Species and Critical Habitat

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the ESA, for the TI segments addressed in this ESP, the Secretary committed the DHS to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the ESA as the basis for evaluating potential environmental impacts and appropriate mitigations.

Implementation of the Project is likely to adversely affect the jaguar in Segment D-5 although reduced presence of IAs who may disturb bat habitat is expected to have a beneficial effect. The Project may affect, but is not likely to adversely affect the lesser long-nosed bat, ocelot, the Pima pineapple cactus, Mexican spotted owl, and the Chiricahua leopard frog. Potentially suitable habitat exists within the Project corridor for

the species listed above. However, none of these species were observed during the May and July 2008 survey. While avoidance will be the primary conservation measure, it can not always be achieved; thus, CBP has prepared a list of appropriate BMPs (see Appendix B) for the protected species. This list of BMPs was developed in close coordination with USFWS and is specific to CBP's planned TI construction and operation activities.

Jaguar

Project-related loss of habitat is likely to adversely affect this species. Most jaguar detections have occurred in Madrean woodland communities (USFWS 2007). Up to 44 acres of Madrean Evergreen Woodland vegetation will be permanently lost, and an additional 2 acres temporarily degraded. This habitat type represents suitable habitat for jaguar.

TI associated with the Project could impede movements of jaguar across the border. Because jaguar in Arizona are believed to be part of a population in northern Mexico, limiting jaguar movement and exchange between the U.S. and Mexico will result in fragmentation of jaguar habitat. However, other conditions currently exist which also contribute to the fragmentation of jaguar habitat. Infrastructure, such as major highways, may impede jaguar movement and exchanges between the U.S. and Mexico.

Human activity and elevated noise levels during construction will disturb any jaguar in the immediate area and possibly hinder or impede jaguar movements into the U.S. Nighttime construction can temporarily affect foraging activity; however, construction activities will be conducted during daylight hours to the maximum extent practicable.

Vehicle traffic, foot traffic, and the presence of IAs can affect habitat by altering composition, structure, and function of habitat; however, changes in IA traffic patterns result from a variety of factors and therefore are considered unpredictable and beyond the scope of this ESP. Beneficial indirect impacts will be expected from the protection afforded to areas north of the Project corridor. Therefore, although 44 acres of Madrean

Evergreen Woodland vegetation will be permanently lost as a result of the Project, substantially larger areas north of the Project corridor will benefit due to the reduction in IA traffic.

Lesser long-nosed bat

Although the new pedestrian fence and construction/maintenance road will directly impact approximately 29 acres of potential foraging habitat for the lesser long nosed bat, the agave plants observed within the Project corridor were minimal. The majority of the agave plants occur north of the Project corridor. Additionally, the closest roost site is approximately 0.9 miles north of the Project corridor. Therefore, the Project is not likely to adversely affect the lesser long-nosed bat in Segment D-5. While avoidance will be the primary conservation measure, CBP has prepared a list of appropriate BMPs (see Section 1.5 and Appendix B) for the protected species. This list of BMPs was developed in close coordination with USFWS and is specific to USBP's TI construction and operation activities.

Vehicle traffic, foot traffic, and the presence of IAs can affect habitat by altering composition, structure, and function of habitat; however, changes in IA traffic patterns result from a variety of factors and therefore are considered unpredictable and beyond the scope of this ESP. Beneficial indirect impacts will be expected from the protection afforded to areas north of the Project corridor.

Nighttime construction can temporarily disturb bats in transit between roosts and forage habitat; however, the impacts will be negligible. Construction activities will be conducted during daylight hours to the maximum extent practicable.

Ocelot

The Project may affect, but is not likely to adversely affect, the ocelot in the D-5 Project corridor. There are no known occurrences of this species within or immediately adjacent to the Project corridor (NatureServe 2008). TI associated with the Project can

impede movement of ocelots across the border and could result in fragmentation of ocelot habitat.

Project-related loss of habitat is not likely to adversely affect this species because of the lack of occurrences in the area and the lack of dense cover. Human activity and elevated noise levels during construction will possibly hinder or impede ocelot movements into the U.S. Nighttime construction can temporarily affect migration and hunting activities; however, construction activities are expected to be conducted during daylight hours to the maximum extent practicable.

Vehicle traffic, foot traffic, and the presence of IAs can affect habitat by altering composition, structure, and function of habitat; however, changes in IA patterns result from a variety of factors and therefore are considered unpredictable and beyond the scope of this ESP.

Pima pineapple cactus

Although Pima pineapple cacti were not observed within the Project corridor, there is a slight potential for undetected specimens to be impacted by the Project. CBP will designate a qualified biological monitor who will be responsible for overseeing compliance with protective measures for Federally protected species during construction activities within designated areas. The CBP biological monitor will notify the construction manager of any activities that may harm or harass an individual of a Federally listed species. The construction manager may temporarily suspend all activities in question and notify the Contracting Officer, the Administrative Contracting Officer, and the Contracting Officer's Representative of the temporary suspension so that the key USACE personnel can be notified and apprised of the potential situation and it can be resolved. Additionally, the implementation of general and species-specific BMPs will help to avoid impacts on Pima pineapple cacti within the Project corridor.

Vehicle traffic, foot traffic, and the presence of IAs can affect habitat by altering composition, structure, and function of habitat; however, changes in IA patterns result

from a variety of factors and, therefore, are considered unpredictable and beyond the scope of this ESP.

Mexican spotted owl

The Project may affect, but is not likely to adversely affect, the Mexican spotted owl in the D-5 Project corridor. Designated critical habitat for the Mexican spotted owl does occur within the construction area (Figure 8-3); however, the Project corridor lacks primary constituent elements which are necessary to ensure the conservation of the owl. Primary constituent elements related to forest structure are lacking, such as a shade canopy created by tree branches covering 40 percent or more of the ground and large dead trees (snags) with a trunk diameter of at least 12 inches when measured at 4.5 feet from the ground. The Project corridor also lacks high volumes of fallen trees and other woody debris which is a primary constituent element related to the maintenance of adequate prey species. Additionally, two primary constituent elements related to canyon habitat are also lacking. These include the presence of water and canyon walls which contain crevices, ledges, or caves. The closest Mexican spotted owl primary activity center is approximately 1 mile from the Project corridor (Figure 8-3). Therefore, no adverse modification to Mexican spotted owl Critical Habitat is expected.

Chiricahua leopard frog

Although Chiricahua leopard frogs were not observed within the Project corridor, there is a slight potential for undetected specimens to be impacted by the Project. Suitable habitat exists within the Project corridor during monsoon season. CBP will designate a qualified biological monitor who will be responsible for overseeing compliance with protective measures for Federally protected species during construction activities within designated areas. The CBP biological monitor will notify the construction manager of any activities that may harm or harass an individual of a Federally listed species. The construction manager may temporarily suspend all activities in question and notify the Contracting Officer, the Administrative Contracting Officer, and the Contracting Officer's Representative of the temporary suspension so that the key USACE personnel can be notified and apprised of the potential situation and it can be resolved. Additionally, the

implementation of general and species-specific BMPs will help to avoid impacts on Pima pineapple cacti within the Project corridor.

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SECTION 9.0
CULTURAL RESOURCES

9.0 CULTURAL RESOURCES

9.1 BACKGROUND

Southern Arizona has a rich cultural history that spans thousands of years. In general, the cultural setting of the Santa Cruz Valley can be divided into seven different periods: Paleoindian, Archaic, Hohokam, Protohistoric, Spanish Colonial and Mexican, American Territorial, and Statehood Periods. These periods are commonly subdivided into smaller temporal phases based on particular characteristics of the artifact assemblages encountered. Written records and documentation is used in conjunction with archaeological remains to define the historic periods.

A records search identified two previous surveys which have been conducted within 1 mile of the D-5 segment. Both surveys were done in association with improvements along the U.S.-Mexico border. The records search identified one previously recorded archaeological site, AZ EE:9:244(ASM)/AR03-05-02-643. The site consists of a cast iron Border Monument and is located outside of the current Project area. The current survey of the D-5 segment recorded five previously unrecorded sites. The sites consisted of four Border Monuments (AZ DD:12:42[ASM], AZ D:12:43[ASM], AZ DD:12:44[ASM], and AZ DD:12:45[ASM]), three of cast iron construction and one of masonry construction, and a historic cattle camp and limited-use mine. The historic cattle camp and limited-use mine consisted of eight associated features. Features present at the site include a cistern and dam, metal tank, tailing pipe, concrete troughs, a rock alignment, and a test adit. In addition to the five previously unrecorded archaeological sites, nine isolated occurrences were recorded. Isolated occurrences do not meet the minimum requirements of an archaeological site and are not considered significant cultural resources.

9.2 ENVIRONMENTAL CONSEQUENCES

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the National Historic Preservation Act (NHPA), for the TI segments

addressed in this ESP, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the NHPA as the basis for evaluating potential environmental impacts and appropriate mitigations.

Given that the placement of the International Boundary Monuments on the border and the historic cattle camp and limited use mine are at the northern edge of the Project corridor, it is anticipated that the Project will avoid, and therefore, not affect these significant and potentially significant cultural resources. During construction, orange fabric barrier fencing, or similar material, will be positioned on the edges of established roads to prevent vehicle traffic from impacting undisturbed cultural sites outside of the surveyed corridor. Use of an on-site archaeological monitor will also be considered to monitor construction activities and travel routes. If the sites can not be avoided during construction then additional mitigation measures will be developed to reduce impact to the sites. If any cultural material is discovered during construction, all activities within the vicinity of the discovery will be halted until the area has been cleared by a qualified archeologist. Consequently, the Project will not adversely impact cultural resources.

SECTION 10.0
SOCIOECONOMICS

10.0 SOCIOECONOMICS

10.1 AFFECTED ENVIRONMENT

The ROI for the TI construction is defined as Santa Cruz County, Arizona, which is part of the Nogales, AZ Micropolitan Statistical Area. Santa Cruz is one of 15 counties in Arizona. Its 2000 population of 38,532 ranked 12th in the state (Bureau of Economic Analysis [BEA] 2000a). The racial mix of Santa Cruz County is mainly composed of Caucasians (76 percent), followed by people claiming to be some race other than Caucasian, African American, Native American, Asian, Native Hawaiian, or other Pacific Islander (19.7 percent), and people claiming to be two or more races (2.6 percent). The remaining 1.7 percent is split among African Americans, Native Americans, Asians, and Native Hawaiians or other Pacific Islanders. More than half of the total estimated 2000 population of Santa Cruz County (80 percent) claim to be of Hispanic origin (U.S. Census Bureau 2000a).

The total number of jobs in Santa Cruz County in 2000 was 15,830 (BEA 2000b). The largest number of people employed in Santa Cruz County in 2000 worked in government or government enterprises, followed by retail trade and services (BEA 2000b). The 2000 estimated average annual unemployment rate for Santa Cruz County was 4.0 percent.

In 2005, Santa Cruz County had a per capita personal income (PCPI) of \$16,887 (BEA 2000a). This PCPI ranked 10th in the state and was 66 percent of the state average, \$25,653, and 57 percent of the national average, \$29,845. Total personal income (TPI) of an area is the income that is received by, or on behalf of, all the individuals who live in that area. In 2000, the TPI of Santa Cruz County was \$650 million and ranked 12th in the state. The median income in 2000 was \$31,123, significantly less than the median income of the State (\$40,437) and Nation (\$41,990) (U.S. Census Bureau 2000b).

10.2 ENVIRONMENTAL CONSEQUENCES

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under Executive Order (EO) 12898 and EO 13045 for the TI segments addressed in this ESP, the Secretary committed DHS to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the EOs as the basis for evaluating potential environmental impacts and appropriate mitigations.

The Project will have no impacts, direct or indirect, on long-term population or employment. The total cost of this Project is not known at this stage of the planning process, but the amount that will be spent in the local area can be assumed to be between 15 and 30 percent of the total Project cost. These expenditures are subject to economic multiplier effects, which will have overall beneficial, short-term impacts on the economy within the ROI.

Santa Cruz County will benefit from effective enforcement operations across the ROI. Overall, construction of the primary pedestrian fence will reduce adverse impacts currently experienced by local law enforcement and the emergency response community. The Project will provide additional protection from illegal vehicle and foot traffic, lower crime, and is expected to improve the quality of life along the border.

Construction and operation of TI will increase border security in the Project corridors and may result in a change to illegal traffic patterns. However, changes to IA traffic patterns result from a myriad of factors and therefore are considered unpredictable and beyond the scope of this ESP.

SECTION 11.0
HAZARDOUS MATERIALS AND WASTE

11.0 HAZARDOUS MATERIALS AND WASTE

11.1 AFFECTED ENVIRONMENT

The EPA maintains a list of hazardous waste sites, particularly waste storage/treatment facilities or former industrial manufacturing sites in the U.S. The chemical contaminants released into the environment (air, soil, or groundwater) from hazardous waste sites may include heavy metals, organic compounds, solvents, and other chemicals. The potential adverse impact of hazardous waste sites on human health is a considerable source of concern to the general public, as well as government agencies and health professionals.

Solid and hazardous wastes are regulated in Arizona by a combination of mandated laws promulgated by the Federal, state, and regional Councils of Government. A search of USEPA's Envirofacts Data Warehouse showed no superfund sites near the Project corridor (USEPA 2006b). There were several hazardous waste sites in Nogales, Arizona. However, the closest three hazardous waste sites, Optimize Manufacturing Company, Carondolet Holy Cross Hospital, and Granite Construction are located approximately 2.2 miles east of the eastern edge of the corridor (USEPA 2006b).

11.2 ENVIRONMENTAL CONSEQUENCES

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for the TI segments addressed in this ESP, the Secretary committed the DHS to responsible environmental stewardship of our valuable natural and cultural resources. Accordingly, CBP will apply the appropriate standards and guidelines associated with CERCLA as a basis for evaluating potential environmental impacts and appropriate mitigations.

The Project area is very mountainous and has numerous arroyos that could be impacted with hazardous or toxic materials, which could lead to groundwater contamination. Therefore, the following steps will be taken to prevent contamination of this relatively pristine area.

Care will be taken to avoid impacting the Project area with hazardous substances (*i.e.*, anti-freeze, fuels, oils, lubricants) used during construction. POLs will likely be stored at the temporary staging areas in order to maintain and refuel construction equipment. However, these activities will include primary and secondary containment measures and a SPCCP will be in place prior to the start of construction, and all personnel will be briefed on the implementation and responsibilities of this plan.

Clean-up materials (*e.g.*, oil mops), in accordance with the Project's SPCCP, will also be maintained at the site to allow immediate action in case an accidental spill occurs. Drip pans will be provided for the power generators and other stationary equipment to capture any POL accidentally spilled during maintenance activities or leaks from the equipment.

Sanitation facilities will be provided during construction activities, and waste products will be collected and disposed of by licensed contractors. No gray water will be discharged to the ground. Disposal contractors will use only established roads to transport equipment and supplies; all waste will be disposed of in strict compliance with Federal, state, and local regulations, in accordance with the contractor's permits. Due to the proper permits being obtained by the licensed contractor tasked to handle any unregulated solid waste, and because all of the unregulated solid waste will be handled in the proper manner, no hazards to the public are expected through the transport, use, or disposal of unregulated solid waste.

SECTION 12.0
RELATED PROJECTS AND POTENTIAL EFFECTS

12.0 RELATED PROJECTS AND POTENTIAL EFFECTS

This section of the ESP addresses the potential cumulative impacts associated with the implementation of the Project and other projects/programs that are planned for the region. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time by various agencies (Federal, state, and local) or individuals. Informed decision-making is served by consideration of cumulative impacts resulting from projects that are planned, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future.

This cumulative impacts analysis summarizes expected environmental effects from the combined impacts of past, current, and reasonably foreseeable future projects. The geographic scope of the analysis varies by resource area. For example, the geographic scope of cumulative impacts on resources, such as noise, visual resources, soils, and vegetation, is very narrow and focused on the location of the resource. The geographic scope of air quality, wildlife and sensitive species, and socioeconomics is much broader and considers more county- or region-wide activities. Projects that were considered for this analysis were identified by reviewing USBP documents, news releases, and published media reports, and through consultation with planning and engineering departments of local governments, and state and Federal agencies. Projects that do not occur in close proximity (*i.e.*, within several miles) to the Project will not contribute to a cumulative impact and are generally not evaluated further.

USBP has been conducting law enforcement actions along the border since its inception in 1924, and has continually transformed its methods as new missions, IA modes of operation, agent needs, and national enforcement strategies have evolved. Development and maintenance of training ranges, station and sector facilities, detention facilities, and roads and fences have affected thousands of acres, with synergistic and cumulative impacts on soil, wildlife habitats, water quality, and noise. Beneficial effects have resulted from the construction and use of these roads and fences, including, but not limited to: increased employment and income for border regions and surrounding

communities; protection and enhancement of sensitive resources north of the border; reduction in crime within urban areas near the border; increased land value in areas where border security has increased; and increased knowledge of the biological communities and pre-history of the region through numerous biological and cultural resources surveys and studies.

With continued funding and implementation of CBP/USBP's environmental conservation measures, including environmental education and training of its construction personnel, use of biological and archaeological monitors, wildlife water systems, and restoration activities, adverse impacts of future and ongoing projects will be prevented or minimized. However, recent, ongoing, and reasonably foreseeable projects will result in cumulative impacts. General description of these types of activities are discussed in the following paragraphs.

Cumulative Fencing along Southwestern Border. There are currently 62 miles of landing mat fence at various locations along the U.S./Mexico international border (CRS 2006); 14 miles of single, double, and triple fence in San Diego, California; 70 miles of new primary pedestrian fencing at various locations along the U.S./Mexico international border; and fences at POE facilities throughout the southern border. In addition, 225 miles of fence are currently being constructed or planned for Texas, New Mexico, Arizona, and California.

Past Actions. Past actions are those within the cumulative effects analysis areas that have occurred prior to the development of this ESP. The effects of these past actions are generally described throughout the previous sections.

Present Actions. Present actions include current or funded construction projects, USBP or other agency actions in close proximity to the planned fence locations, and current resource management programs and land use activities within the cumulative effects analysis areas. Ongoing actions considered in the cumulative effects analysis include the following:

- Secure Border Initiative (SBI) Projects – The Secure Border Initiative (SBI) is a comprehensive multi-year plan established by the Department of Homeland Security (DHS) to secure America's borders and reduce illegal migration. *SBI_{net}* is responsible for the development, installation and integration of technology solutions, and SBI TI develops and installs physical components designed to secure the border consisting of the following major components: pedestrian fence (PF), vehicle fence (VF), roads, lights and vegetation control. *SBI_{net}* will improve deterrence, detection, and apprehension of IAs into the United States. When fully implemented, *SBI_{net}* and SBI TI will improve ability of CBP personnel to rapidly and effectively respond to illegal cross border activity and help DHS and CBP to manage, control, and secure the Nation's borders. SBI TI has constructed 36 miles of primary pedestrian fencing along the U.S./Mexico border within the Barry M. Goldwater Range and 6 miles west of the range (122 acres).
- CBP Enforcement Zone – CBP has constructed a 9-mile enforcement zone near San Luis, Arizona (20 acres). The enforcement zone includes primary and second fence, all-weather road, safety fence, and permanent lighting.

Reasonably Foreseeable Future Actions. Reasonably foreseeable future actions consist of activities that have been approved and can be evaluated with respect to their effects. The following activities are reasonably foreseeable future actions:

- SBI TI and *SBI_{net}* Projects - Potential future *SBI_{net}* projects include deployment of sensor technology, communications equipment, command and control equipment, fencing, barriers capable of stopping a vehicle, and any required road or components, such as lighting and all-weather access roads. *SBI_{net}* is planning to construct and retrofit a total of approximately 57 towers within the western portion of the Tucson Sector in FY 2009.

Other CBP Projects:

- USBP Facilities – CBP is also planning to construct a new USBP station in Wellton, Arizona (43 acres).

- Vegetation Clearing along the Colorado River – USBP is coordinating with Bureau of Land Management (BLM) and the Cocopah and Quechan Indian Nations to remove exotic plants and trees along the Colorado River. The entire area to be cleared is approximately 1,300 acres, and current plans are to replant the area with native vegetation.
- Lighting Projects – USBP plans to install permanent lights along the international border within Imperial County and other areas within Yuma County where the need for additional security is identified.
- Construction of Primary Fence. The FY 2007 DHS Appropriations Act provided \$1.2 billion for the installation of fencing, infrastructure, and technology along the border (CRS 2006). CBP is planning to construct or is constructing up to 225 miles of primary fence in the Rio Grande Valley, Marfa, Del Rio, and El Paso, Texas; Tucson and Yuma, Arizona; El Centro and San Diego, California, sectors. In addition, about 200 miles of vehicle barriers are also currently being planned in the El Centro, Yuma, Tucson, El Paso and Marfa sectors.

In addition, USBP might be required to implement other activities and operations that are currently not foreseen or mentioned in this document. These actions could be in response to national emergencies or security events like the terrorist attacks on September 11, 2001, or to changes in the mode of operations of the IAs.

Plans by other agencies that will also affect the region's natural and human environment include various road improvements by Arizona Department of Transportation (ADOT) and/or Santa Cruz County. The majority of these projects will be expected to occur along existing corridors and/or within previously disturbed sites. The magnitude of the impacts will depend upon the length and width of the road right of way (ROW) and the extant conditions within and adjacent to the ROW.

The 2007 EA for the Construction of New Patrol and Drag Roads documented several ADOT projects planned in the next 5 years (CBP 2007). The details of these projects

are incorporated herein by reference. Following is a summary of the types of ADOT projects currently in the planning stage:

- Country Club Road-Ruby Road – design of frontage roads
- U.S./Mexico border – Business I-19 roadway improvements
- Junction of State Route-189 and I-19 – roadway improvements
- Doe Street to Baffert Drive – retrofit, sidewalks, landscaping
- Patagonia Lake/Sonoita Creek – design planning
- State Route-82 between Mileposts 38 and 39.5 – slope flattening
- State Route-189 at Milepost 0.095 – drainage improvements
- Mariposa POE – parking lot and road improvements

Other agencies, such as BLM, U.S. Air Force, U.S. Marine Corps, National Park Service, and USFS, routinely prepare or update Resource Management Plans for the resources they manage. USFS has the responsibility of managing approximately half of all lands within Santa Cruz County. In addition to general range land management, the types of projects conducted by USFS include:

- lake maintenance projects;
- pasture divisions and grazing allotment management plans;
- fuelwood/hazardous fuel reduction plans;
- specific habitat improvement projects;
- facility planning;
- invasive exotic plant management programs;
- land exchanges;
- pipeline/transmission ROWs; and
- mechanical brush control plans.

The City of Nogales is the designated gateway from and to Mexico on the CANAMEX Trade Corridor. The name “CANAMEX” is derived from the country names of Canada, America, and Mexico, where a western trade corridor of 1,700 miles of existing highway and interstate systems connects the three countries. The CANAMEX corridor is expected to become one of the most important north/south trade corridors in North

America. The state governments of Arizona and Nevada are committed to obtaining funds to construct a four-lane divided highway in anticipation of the CANAMEX Trade Corridor. The completion of these projects will create an uninterrupted north/south highway system down the spine of the CANAMEX Trade Corridor. This project is in the planning stage, and potential impacts are unknown at this time.

A summary of the anticipated cumulative impacts relative to the Project (*i.e.*, construction of 4 miles of primary pedestrian fence) is presented below. These discussions are presented for each of the resources described previously.

12.1 AIR QUALITY

The emissions generated during and after the construction of the fence will be short-term and minor. Although maintenance of the fence and associated maintenance road will result in cumulative adverse impacts to the region's airshed, these impacts will be considered negligible. No violation of air quality standards, obstruction of air quality plans, or exposure of sensitive receptors will occur. Deterrence of and improved response time to cross border violators, due to the construction of the fence and road, will be expected to reduce the need for future off-road enforcement actions by USBP agents.

12.2 NOISE

Most of the noise generated by the Project will occur during construction and, thus, will not contribute to cumulative impacts to ambient noise levels. Routine maintenance of the fence and road will result in slight temporary and sporadic increases in noise levels that will continue to occur over the long-term. Potential sources of noise from other projects in combination with routine maintenance are not enough (temporal or spatial) to increase ambient noise levels above the 65 dBA range in the ROI. Thus, the noise generated by the construction and maintenance of the fence and road, when considered

with the other existing and planned projects in the region, will not be a major cumulative adverse impact.

12.3 LAND USE, RECREATION, AESTHETICS

The Project described herein will occur both within and outside of the Roosevelt Reservation, which was set aside specifically for border control actions. Construction of TI within the Roosevelt Reservation is consistent with the authorized land use. The installation of a construction/maintenance road outside of the Roosevelt Reservation will have a minimal impact on land use. However, this action, when considered with other potential alterations of land use, will have negligible cumulative impacts.

The Project will degrade the existing visual character of the region; thus, impacts will be considered moderate. Areas north of the border within the construction corridors will be expected to experience beneficial, indirect cumulative impacts through the reduction of trash, soil erosion, and creation of trails by illegal pedestrian traffic. Therefore, moderate cumulative impacts on visual resources are expected from implementing the Project, when considered with existing and proposed developments in the surrounding areas.

12.4 GEOLOGICAL RESOURCES AND SOILS

The Project does not impact prime farmland soils or agricultural production. Pre- and post-construction SWPPP measures will be implemented to control erosion. No inappropriate soil types are located at the Project site that will present a safety risk. Installation of the construction/maintenance road may cause a minimal to moderate impact on geologic outcrops or formations as a result of the Project. The permanent impact on approximately 44 acres and temporary impacts on approximately 2 acres of disturbed soils, and a minimal to moderate impact on geologic outcrops or formations, when combined with past and planned projects in the region, are not considered as major cumulative adverse impacts.

12.5 WATER USE AND QUALITY

As a result of the Project, when combined with other USBP projects, increased temporary erosion during construction will occur; however, increased sediment and turbidity will have minimal cumulative impacts on water quality. Pre- and post-construction SWPPP measures for this and other projects will be implemented to control erosion. Limited and short-term withdrawal from the regional groundwater basins will not affect long-term water supplies or groundwater quality. Although the volume of water withdrawn will not affect the public drinking water supplies, it may indirectly contribute to aquifer contamination from surface runoff. With the implementation of appropriate BMPs, the Project will not substantially alter existing drainage patterns or substantially affect water quality. However, when combined with past and planned projects in the region, indirect effects of altered surface drainage and potential consequent erosion will have adverse cumulative impacts on surface water quality.

12.6 BIOLOGICAL RESOURCES (VEGETATION, WILDLIFE, AQUATIC SPECIES, SPECIAL STATUS SPECIES)

Vegetation. Removal of Madrean Evergreen Woodland community will result in minor cumulative impacts to vegetation within the Project corridor. Other USBP projects, including the vegetation clearing and additional lighting, will result in cumulative adverse impacts. The extent of these impacts is not known since these actions are not planned or defined to date. However, the long-term viability of vegetation communities in the ROI will not be threatened. This loss of vegetative habitat, when combined with other ground disturbing or development projects in the ROI, will not result in major cumulative impacts to the region's vegetation communities.

Wildlife and Aquatic Resources. Removal of wildlife habitat will result in minor cumulative impacts due to the vast amount of similar habitat contained within and surrounding the Project corridor. As a result of past and planned projects within Tucson Sector, cumulative impacts due to fragmentation of habitat will be considered moderate to major. Most of the border within Tucson Sector will have physical barriers installed

once all planned projects are completed. However, many portions of infrastructure will be vehicle fence rather than primary pedestrian fence. In addition, even future primary pedestrian fence that is constructed within arroyos or washes will be designed and constructed to allow conveyance of flood flows, which will require some small gaps in the fence panels. Thus, there will still be opportunities for transboundary migration. However, animals which are larger than the small gaps in the fence panels will not be able to migrate. These tend to be the animals that require migration for genetic diversity and integrity.

Threatened and Endangered Species. Implementation of the Project may affect and is likely to adversely affect the jaguar and lesser long-nosed bat in Segment D-5. The Project may affect, but is not likely to adversely affect the ocelot, Pima pineapple cactus, Mexican spotted owl, and the Chiricahua leopard frog. Implementing general and species-specific BMPs will help to avoid impacts on these species and their habitats (see Appendix B). The currently high level of IA activity in the area, which occurs primarily at night when these species are active, will be substantially reduced, which will beneficially affect the species. Construction, operation, and maintenance of TI, when combined with past, present, and future residential and commercial development, has the potential to result in minor to major adverse cumulative impacts on these species.

12.7 CULTURAL RESOURCES

The Project will have no effect on historic properties, provided avoidance measures are implemented. Avoidance measures include limiting construction activities to previously surveyed areas. If any additional cultural material is discovered during the construction efforts, then all activities in the area will halt until a qualified archaeologist assesses the cultural remains. Therefore, this action, when combined with other existing and planned projects in the region, will not have major cumulative impacts on cultural resources.

12.8 SOCIOECONOMICS

Construction of the Project will result in temporary, minor and beneficial impacts to the region's economy. No impacts to residential areas, populations, minority or low-income families will occur. When practicable, materials and other Project expenditures will predominantly be obtained through merchants in the local community. All construction activities will be limited to daylight hours, when practicable. Safety buffer zones will be designated around all construction sites to ensure public health and safety. These effects, when combined with the other projects currently planned or on-going projects within the region, will have minor cumulative impacts.

12.9 HAZARDOUS MATERIALS

Only minor increases in the use of hazardous substances (e.g., POL) could occur as a result of the construction and maintenance of the fence and road. Therefore, the Project, when combined with other ongoing and proposed projects in the region, is not expected to have a major cumulative impact.

SECTION 13.0
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13.0 REFERENCES

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SECTION 14.0
ABBREVIATIONS AND ACRONYMS

14.0 ABBREVIATIONS AND ACRONYMS

AAI	Aztlan Archaeology, Inc.
AESFO	Arizona Ecological Services Field Office
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
AF/YR	acre-feet per year
AGFD	Arizona Game and Fish Department
AMA	Active Management Area
ANHP	Arizona Natural Heritage Program
AO	Area of Operation
amsl	above mean sea level
BEA	United States Bureau of Economic Analysis
BLM	United States Bureau of Land Management
BMP	Best Management Practices
BRP	Biological Resources Plan
BO	Biological Opinion
CAA	Clean Air Act
CBP	United States Customs and Border Protection
CEC	Council for Environmental Cooperation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CPNWR	Cabeza Prieta National Wildlife Refuge
CWA	Clean Water Act
dBA	decibel – A weighted scale
DHS	United States Department of Homeland Security
DNL	day-night average sound level
DPS	distinct population segment
EA	Environmental Assessment
ECSSO	Engineering Construction Support Office
EEC	Engineering and Environmental Consultants
EO	Executive Order
ESA	Endangered Species Act
ESP	Environmental Stewardship Plan
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FY	Fiscal Year
GIS	Geographic Information Systems
GSRC	Gulf South Research Corporation
HUD	U.S. Department of Housing and Urban Development

IA	illegal alien
IBC	International Border Commission
IIRIRA	Immigration Reform and Immigrant Responsibility Act
INS	Immigration and Naturalization Service
IPS	inches per second
MARAMA	Mid-Atlantic Regional Air Management Association
MRI	Midwest Research Institute
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves and Protection Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NOA	Notice of Availability
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
O ₃	Ozone
Pb	Lead
PCPI	per capita personal income
PF	Pedestrian fence
P.L.	Public Law
PM-10	Particulate<10 micrometers
PM-2.5	Particulate<2.5 micrometers
POE	Port of Entry
POL	petroleum, oil, and lubricants
PPV	peak particle velocity
PVB	permanent vehicle barrier
ROI	region of influence
ROW	right of way
SEA	Supplemental Environmental Assessment
SHPO	State Historic Preservation Officer
SO ₂	Sulfur dioxide
SPCCP	Spill Prevention, Control, and Countermeasures Plan
SPRNCA	San Pedro River National Conservation Area
SWPPP	Storm Water Pollution Prevention Plan
TI	Tactical Infrastructure
U.S.	United States
USACE	United States Army Corps of Engineers
USBP	United States Border Patrol
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USDOJ	United States Department of Interior
USEPA	United States Environmental Protection Agency

USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USIBWC	United States Section, International Boundary Water Commission
USP	Upper San Pedro (basin)
VF	Vehicle Fence
WACC	Western Archaeological and Conservation Center
WUS	Waters of the U.S.

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APPENDIX A
Copy of 2008 Border Waiver

FOR FURTHER INFORMATION CONTACT: Ken Hunt, Executive Director, 245 Murray Lane, Mail Stop 0550, Washington, DC 20528, 703-235-0780 and 703-235-0442, privacycommittee@dhs.gov.

Purpose and Objective: Under the authority of 6 U.S.C. section 451, this charter establishes the Data Privacy and Integrity Advisory Committee, which shall operate in accordance with the provisions of the Federal Advisory Committee Act (FACA) (5 U.S.C. App).

The Committee will provide advice at the request of the Secretary of DHS and the Chief Privacy Officer of DHS on programmatic, policy, operational, administrative, and technological issues within the DHS that relate to personally identifiable information (PII), as well as data integrity and other privacy-related matters.

Duration: The committee's charter is effective March 25, 2008, and expires March 25, 2010.

Responsible DHS Officials: Hugo Teufel III, Chief Privacy Officer and Ken Hunt, Executive Director, 245 Murray Drive, Mail Stop 0550, Washington, DC 20528, privacycommittee@dhs.gov, 703-235-0780.

Dated: April 1, 2008.

Hugo Teufel III,

Chief Privacy Officer.

[FR Doc. E8-7277 Filed 4-7-08; 8:45 am]

BILLING CODE 4410-10-P

DEPARTMENT OF HOMELAND SECURITY

Office of the Secretary

Determination Pursuant to Section 102 of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as Amended

AGENCY: Office of the Secretary, Department of Homeland Security.

ACTION: Notice of determination; correction.

SUMMARY: The Secretary of Homeland Security has determined, pursuant to law, that it is necessary to waive certain laws, regulations and other legal requirements in order to ensure the expeditious construction of barriers and roads in the vicinity of the international land border of the United States. The notice of determination was published in the **Federal Register** on April 3, 2008. Due to a publication error, the Project Area description was inadvertently omitted from the April 3 publication. For clarification purposes, this document is a republication of the April 3 document including the omitted Project Area description.

DATES: This Notice is effective on April 8, 2008.

Determination and Waiver

The Department of Homeland Security has a mandate to achieve and maintain operational control of the borders of the United States. Public Law 109-367, 2, 120 Stat. 2638, 8 U.S.C. 1701 note. Congress has provided the Secretary of Homeland Security with a number of authorities necessary to accomplish this mandate. One of these authorities is found at section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 ("IIRIRA"). Public Law 104-208, Div. C, 110 Stat. 3009-546, 3009-554 (Sept. 30, 1996) (8 U.S.C 1103 note), as amended by the REAL ID Act of 2005, Public Law 109-13, Div. B, 119 Stat. 231, 302, 306 (May 11, 2005) (8 U.S.C. 1103 note), as amended by the Secure Fence Act of 2006, Public Law 109-367, 3, 120 Stat. 2638 (Oct. 26, 2006) (8 U.S.C. 1103 note), as amended by the Department of Homeland Security Appropriations Act, 2008, Public Law 110-161, Div. E, Title V, 564, 121 Stat. 2090 (Dec. 26, 2007). In Section 102(a) of the IIRIRA, Congress provided that the Secretary of Homeland Security shall take such actions as may be necessary to install additional physical barriers and roads (including the removal of obstacles to detection of illegal entrants) in the vicinity of the United States border to deter illegal crossings in areas of high illegal entry into the United States. In Section 102(b) of the IIRIRA, Congress has called for the installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwest border, including priority miles of fencing that must be completed by December of 2008. Finally, in section 102(c) of the IIRIRA, Congress granted to me the authority to waive all legal requirements that I, in my sole discretion, determine necessary to ensure the expeditious construction of barriers and roads authorized by section 102 of the IIRIRA.

I determine that the following area of Hidalgo County, Texas, in the vicinity of the United States border, hereinafter the Project Area, is an area of high illegal entry:

- Starting approximately at the intersection of Military Road and an unnamed road (i.e. beginning at the western end of the International Boundary Waters Commission (IBWC) levee in Hidalgo County) and runs east in proximity to the IBWC levee for approximately 4.5 miles.
- Starting approximately at the intersection of Levee Road and 5494 Wing Road and runs east in proximity

to the IBWC levee for approximately 1.8 miles.

- Starting approximately 0.2 mile north from the intersection of S. Depot Road and 23rd Street and runs south in proximity to the IBWC levee to the Hidalgo POE and then east in proximity to the new proposed IBWC levee and the existing IBWC levee to approximately South 15th Street for a total length of approximately 4.0 miles.

- Starting adjacent to Levee Road and approximately 0.1 miles east of the intersection of Levee Road and Valley View Road and runs east in proximity to the IBWC levee for approximately 1.0 mile then crosses the Irrigation District Hidalgo County #1 Canal and will tie into the future New Donna POE fence.

- Starting approximately 0.1 mile east of the intersection of County Road 556 and County Road 1554 and runs east in proximity to the IBWC levee for approximately 3.4 miles.

- Starting approximately 0.1 mile east of the Bensten Groves road and runs east in proximity to the IBWC levee to the Progreso POE for approximately 3.4 miles.

- Starting approximately at the Progreso POE and runs east in proximity to the IBWC levee for approximately 2.5 miles.

In order to deter illegal crossings in the Project Area, there is presently a need to construct fixed and mobile barriers and roads in conjunction with improvements to an existing levee system in the vicinity of the border of the United States as a joint effort with Hidalgo County, Texas. In order to ensure the expeditious construction of the barriers and roads that Congress prescribed in the IIRIRA in the Project Area, which is an area of high illegal entry into the United States, I have determined that it is necessary that I exercise the authority that is vested in me by section 102(c) of the IIRIRA as amended. Accordingly, I hereby waive in their entirety, with respect to the construction of roads and fixed and mobile barriers (including, but not limited to, accessing the project area, creating and using staging areas, the conduct of earthwork, excavation, fill, and site preparation, and installation and upkeep of fences, roads, supporting elements, drainage, erosion controls, safety features, surveillance, communication, and detection equipment of all types, radar and radio towers, and lighting) in the Project Area, all federal, state, or other laws, regulations and legal requirements of, deriving from, or related to the subject of, the following laws, as amended: The National Environmental Policy Act (Pub. L. 91-190, 83 Stat. 852 (Jan. 1,

1970) (42 U.S.C. 4321 *et seq.*), the Endangered Species Act (Pub. L. 93–205, 87 Stat. 884) (Dec. 28, 1973) (16 U.S.C. 1531 *et seq.*), the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act) (33 U.S.C. 1251 *et seq.*), the National Historic Preservation Act (Pub. L. 89–665, 80 Stat. 915 (Oct. 15, 1966) (16 U.S.C. 470 *et seq.*), the Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), the Clean Air Act (42 U.S.C. 7401 *et seq.*), the Archeological Resources Protection Act (Pub. L. 96–95, 16 U.S.C. 470aa *et seq.*), the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*), the Noise Control Act (42 U.S.C. 4901 *et seq.*), the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*), the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 *et seq.*), the Archaeological and Historic Preservation Act (Pub. L. 86–523, 16 U.S.C. 469 *et seq.*), the Antiquities Act (16 U.S.C. 431 *et seq.*), the Historic Sites, Buildings, and Antiquities Act (16 U.S.C. 461 *et seq.*), the Farmland Protection Policy Act (7 U.S.C. 4201 *et seq.*), the Coastal Zone Management Act (Pub. L. 92–583, 16 U.S.C. 1451 *et seq.*), the Federal Land Policy and Management Act (Pub. L. 94–579, 43 U.S.C. 1701 *et seq.*), the National Wildlife Refuge System Administration Act (Pub. L. 89–669, 16 U.S.C. 668dd–668ee), the Fish and Wildlife Act of 1956 (Pub. L. 84–1024, 16 U.S.C. 742a, *et seq.*), the Fish and Wildlife Coordination Act (Pub. L. 73–121, 16 U.S.C. 661 *et seq.*), the Administrative Procedure Act (5 U.S.C. 551 *et seq.*), the Rivers and Harbors Act of 1899 (33 U.S.C. 403), the Eagle Protection Act (16 U.S.C. 668 *et seq.*), the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 *et seq.*), the American Indian Religious Freedom Act (42 U.S.C. 1996), the Religious Freedom Restoration Act (42 U.S.C. 2000bb), and the Federal Grant and Cooperative Agreement Act of 1977 (31 U.S.C. 6303–05).

I reserve the authority to make further waivers from time to time as I may determine to be necessary to accomplish the provisions of section 102 of the IIRIRA, as amended.

Michael Chertoff,

Secretary.

[FR Doc. E8–7450 Filed 4–7–08; 8:45 am]

BILLING CODE 4410–10–P

DEPARTMENT OF HOMELAND SECURITY

Office of the Secretary

Determination Pursuant to Section 102 of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as Amended

AGENCY: Office of the Secretary, Department of Homeland Security.

ACTION: Notice of determination; correction.

SUMMARY: The Secretary of Homeland Security has determined, pursuant to law, that it is necessary to waive certain laws, regulations and other legal requirements in order to ensure the expeditious construction of barriers and roads in the vicinity of the international land border of the United States. The notice of determination was published in the **Federal Register** on April 3, 2008. Due to a publication error, the description of the Project Areas was inadvertently omitted from the April 3 publication. For clarification purposes, this document is a republication of the April 3 document including the omitted description of the Project Areas.

DATES: This Notice is effective on April 8, 2008.

Determination and Waiver

I have a mandate to achieve and maintain operational control of the borders of the United States. Public Law 109–367, 2, 120 Stat. 2638, 8 U.S.C. 1701 note. Congress has provided me with a number of authorities necessary to accomplish this mandate. One of these authorities is found at section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (“IIRIRA”). Public Law 104–208, Div. C, 110 Stat. 3009–546, 3009–554 (Sept. 30, 1996) (8 U.S.C. 1103 note), as amended by the REAL ID Act of 2005, Public Law 109–13, Div. B, 119 Stat. 231, 302, 306 (May 11, 2005) (8 U.S.C. 1103 note), as amended by the Secure Fence Act of 2006, Public Law 109–367, 3, 120 Stat. 2638 (Oct. 26, 2006) (8 U.S.C. 1103 note), as amended by the Department of Homeland Security Appropriations Act, 2008, Public Law 110–161, Div. E, Title V, 564, 121 Stat. 2090 (Dec. 26, 2007). In Section 102(a) of IIRIRA, Congress provided that the Secretary of Homeland Security shall take such actions as may be necessary to install additional physical barriers and roads (including the removal of obstacles to detection of illegal entrants) in the vicinity of the United States border to deter illegal crossings in areas of high illegal entry into the United

States. In Section 102(b) of IIRIRA, Congress has called for the installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwest border, including priority miles of fencing that must be completed by December 2008. Finally, in section 102(c) of the IIRIRA, Congress granted to me the authority to waive all legal requirements that I, in my sole discretion, determine necessary to ensure the expeditious construction of barriers and roads authorized by section 102 of IIRIRA.

I determine that the following areas in the vicinity of the United States border, located in the States of California, Arizona, New Mexico, and Texas are areas of high illegal entry (collectively “Project Areas”):

California

- Starting approximately 1.5 mile east of Border Monument (BM) 251 and ends approximately at BM 250.
- Starting approximately 1.1 miles west of BM 245 and runs east for approximately 0.8 mile.
- Starting approximately 0.2 mile west of BM 243 and runs east along the border for approximately 0.5 mile.
- Starting approximately 0.7 mile east of BM 243 and runs east along the border for approximately 0.9 mile.
- Starting approximately 1.0 mile east of BM 243 and runs east along the border for approximately 0.9 mile.
- Starting approximately 0.7 mile west of BM 242 and stops approximately 0.4 mile west of BM 242.
- Starting approximately 0.8 mile east of BM 242 and runs east along the border for approximately 1.1 miles.
- Starting approximately 0.4 mile east of BM 239 and runs east for approximately 0.4 mile along the border.
- Starting approximately 1.2 miles east of BM 239 and runs east for approximately 0.2 mile along the border.
- Starting approximately 0.5 mile west of BM 235 and runs east along the border for approximately 1.1 miles.
- Starting approximately 0.8 mile east of BM 235 and runs east along the border for approximately 0.1 mile.
- Starting approximately 0.6 mile east of BM 234 and runs east for approximately 1.7 miles along the border.
- Starting approximately 0.4 mile east of BM 233 and runs east for approximately 2.1 miles along the border.
- Starting approximately 0.05 mile west of BM 232 and runs east for approximately 0.1 mile along the border.

- Starting approximately 0.2 mile east of BM 232 and runs east for approximately 1.5 miles along the border.
- Starting 0.6 mile east of Border Monument 229 heading east along the border for approximately 11.3 miles to BM 225.
- Starting approximately 0.1 mile east of BM 224 and runs east along the border for approximately 2.5 miles.
- Starting approximately 2.3 miles east of BM 220 and runs east along the border to BM 207.

Arizona

- Starting approximately 1.0 mile south of BM 206 and runs south along the Colorado River for approximately 13.3 miles.
- Starting approximately 0.1 mile north of County 18th Street running south along the border for approximately 3.8 miles.
- Starting at the Eastern edge of BMGR and runs east along the border to approximately 1.3 miles west of BM 174.
- Starting approximately 0.5 mile west of BM 168 and runs east along the border for approximately 5.3 miles.
- Starting approximately 1 mile east of BM 160 and runs east for approximately 1.6 miles.
- Starting approximately 1.3 miles east of BM 159 and runs east along the border to approximately 0.3 mile east of BM 140.
- Starting approximately 2.2 miles west of BM 138 and runs east along the border for approximately 2.5 miles.
- Starting approximately 0.2 miles east of BM 136 and runs east along the border to approximately 0.2 mile west of BM 102.
- Starting approximately 3 miles west of BM 99 and runs east along the border approximately 6.5 miles.
- Starting approximately at BM 97 and runs east along the border approximately 6.9 miles.
- Starting approximately at BM 91 and runs east along the border to approximately 0.7 miles east of BM 89.
- Starting approximately 1.7 miles west of BM 86 and runs east along the border to approximately 0.7 mile west of BM 86.
- Starting approximately 0.2 mile west of BM 83 and runs east along the border to approximately 0.2 mile east of BM 73.

New Mexico

- Starting approximately 0.8 mile west of BM 69 and runs east along the border to approximately 1.5 miles west of BM 65.

- Starting approximately 2.3 miles east of BM 65 and runs east along the border for approximately 6.0 miles.
- Starting approximately 0.5 mile east of BM 61 and runs east along the border until approximately 1.0 mile west of BM 59.
- Starting approximately 0.1 miles east of BM 39 and runs east along the border to approximately 0.3 mile east of BM 33.
- Starting approximately 0.25 mile east of BM 31 and runs east along the border for approximately 14.2 miles.
- Starting approximately at BM 22 and runs east along the border to approximately 1.0 mile west BM 16.
- Starting at approximately 1.0 mile west of BM 16 and runs east along the border to approximately BM 3.

Texas

- Starting approximately 0.4 miles southeast of BM 1 and runs southeast along the border for approximately 3.0 miles.
- Starting approximately 1 Mi E of the intersection of Interstate 54 and Border Highway and runs southeast approximately 57 miles in proximity to the IBWC levee to 3.7 miles east of the Ft Hancock POE.
- Starting approximately 1.6 miles west of the intersection of Esperanza and Quitman Pass Roads and runs along the IBWC levee east for approximately 4.6 miles.
- Starting at the Presidio POE and runs west along the border to approximately 3.2 miles west of the POE.
- Starting at the Presidio POE and runs east along the border to approximately 3.4 miles east of the POE.
- Starting approximately 1.8 miles west of Del Rio POE and runs east along the border for approximately 2.5 miles.
- Starting approximately 1.3 Mi north of the Eagle Pass POE and runs south approximately 0.8 miles south of the POE.
- Starting approximately 2.1 miles west of Roma POE and runs east approximately 1.8 miles east of the Roma POE.
- Starting approximately 3.5 miles west of Rio Grande City POE and runs east in proximity to the Rio Grande river for approximately 9 miles.
- Starting approximately 0.9 miles west of County Road 41 and runs east approximately 1.2 miles and then north for approximately 0.8 miles.
- Starting approximately 0.5 mile west of the end of River Dr and runs east in proximity to the IBWC levee for approximately 2.5 miles.
- Starting approximately 0.6 miles east of the intersection of Benson Rd

and Cannon Rd and runs east in proximity to the IBWC levee for approximately 1 mile.

- Starting at the Los Indios POE and runs west in proximity to the IBWC levee for approximately 1.7 miles.
 - Starting at the Los Indios POE and runs east in proximity to the IBWC levee for approximately 3.6 miles.
 - Starting approximately 0.5 mile west of Main St and J Padilla St intersection and runs east in proximity to the IBWC levee for approximately 2.0 miles.
 - Starting approximately 1.2 miles west of the Intersection of U.S. HWY 281 and Los Ranchitos Rd and runs east in proximity to the IBWC levee for approximately 2.4 miles.
 - Starting approx 0.5 miles southwest of the intersection of U.S. 281 and San Pedro Rd and runs east in proximity to the IBWC levee for approximately 1.8 miles.
 - Starting approximately 0.1 miles southwest of the Intersection of Villanueva St and Torres Rd and runs east in proximity to the IBWC levee for approximately 3.6 miles.
 - Starting approximately south of Palm Blvd and runs east in proximity to the City of Brownsville's levee to approximately the Gateway-Brownsville POE where it continues south and then east in proximity to the IBWC levee for a total length of approximately 3.5 miles.
 - Starting at the North Eastern Edge of Ft Brown Golf Course and runs east in proximity to the IBWC levee for approximately 1 mile.
 - Starting approximately 0.3 miles east of Los Tomates-Brownsville POE and runs east and then north in proximity to the IBWC levee for approximately 13 miles.
- In order to deter illegal crossings in the Project Areas, there is presently a need to construct fixed and mobile barriers (such as fencing, vehicle barriers, towers, sensors, cameras, and other surveillance, communication, and detection equipment) and roads in the vicinity of the border of the United States. In order to ensure the expeditious construction of the barriers and roads that Congress prescribed in the IIRIRA in the Project Areas, which are areas of high illegal entry into the United States, I have determined that it is necessary that I exercise the authority that is vested in me by section 102(c) of the IIRIRA as amended.
- Accordingly, I hereby waive in their entirety, with respect to the construction of roads and fixed and mobile barriers (including, but not limited to, accessing the project area, creating and using staging areas, the

conduct of earthwork, excavation, fill, and site preparation, and installation and upkeep of fences, roads, supporting elements, drainage, erosion controls, safety features, surveillance, communication, and detection equipment of all types, radar and radio towers, and lighting) in the Project Areas, all federal, state, or other laws, regulations and legal requirements of, deriving from, or related to the subject of, the following laws, as amended: The National Environmental Policy Act (Pub. L. 91–190, 83 Stat. 852 (Jan. 1, 1970) (42 U.S.C. 4321 *et seq.*)), the Endangered Species Act (Pub. L. 93–205, 87 Stat. 884 (Dec. 28, 1973) (16 U.S.C. 1531 *et seq.*)), the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act) (33 U.S.C. 1251 *et seq.*)), the National Historic Preservation Act (Pub. L. 89–665, 80 Stat. 915 (Oct. 15, 1966) (16 U.S.C. 470 *et seq.*)), the Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), the Clean Air Act (42 U.S.C. 7401 *et seq.*), the Archeological Resources Protection Act (Pub. L. 96–95, 16 U.S.C. 470aa *et seq.*), the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*), the Noise Control Act (42 U.S.C. 4901 *et seq.*), the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*), the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 *et seq.*), the Archeological and Historic Preservation Act (Pub. L. 86–523, 16 U.S.C. 469 *et seq.*), the Antiquities Act (16 U.S.C. 431 *et seq.*), the Historic Sites, Buildings, and Antiquities Act (16 U.S.C. 461 *et seq.*), the Wild and Scenic Rivers Act (Pub. L. 90–542, 16 U.S.C. 1281 *et seq.*), the Farmland Protection Policy Act (7 U.S.C. 4201 *et seq.*), the Coastal Zone Management Act (Pub. L. 92–583, 16 U.S.C. 1451 *et seq.*), the Wilderness Act (Pub. L. 88–577, 16 U.S.C. 1131 *et seq.*), the Federal Land Policy and Management Act (Pub. L. 94–579, 43 U.S.C. 1701 *et seq.*), the National Wildlife Refuge System Administration Act (Pub. L. 89–669, 16 U.S.C. 668dd–668ee), the Fish and Wildlife Act of 1956 (Pub. L. 84–1024, 16 U.S.C. 742a, *et seq.*), the Fish and Wildlife Coordination Act (Pub. L. 73–121, 16 U.S.C. 661 *et seq.*), the Administrative Procedure Act (5 U.S.C. 551 *et seq.*), the Otay Mountain Wilderness Act of 1999 (Pub. L. 106–145), Sections 102(29) and 103 of Title I of the California Desert Protection Act (Pub. L. 103–433), 50 Stat. 1827, the National Park Service Organic Act (Pub. L. 64–235, 16 U.S.C. 1, 2–4), the National Park Service General

Authorities Act (Pub. L. 91–383, 16 U.S.C. 1a–1 *et seq.*), Sections 401(7), 403, and 404 of the National Parks and Recreation Act of 1978 (Pub. L. 95–625), Sections 301(a)–(f) of the Arizona Desert Wilderness Act (Pub. L. 101–628), the Rivers and Harbors Act of 1899 (33 U.S.C. 403), the Eagle Protection Act (16 U.S.C. 668 *et seq.*), the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 *et seq.*), the American Indian Religious Freedom Act (42 U.S.C. 1996), the Religious Freedom Restoration Act (42 U.S.C. 2000bb), the National Forest Management Act of 1976 (16 U.S.C. 1600 *et seq.*), and the Multiple Use and Sustained Yield Act of 1960 (16 U.S.C. 528–531).

This waiver does not supersede, supplement, or in any way modify the previous waivers published in the **Federal Register** on September 22, 2005 (70 FR 55622), January 19, 2007 (72 FR 2535), and October 26, 2007 (72 FR 60870).

I reserve the authority to make further waivers from time to time as I may determine to be necessary to accomplish the provisions of section 102 of the IIRIRA, as amended.

Michael Chertoff,

Secretary.

[FR Doc. E8–7451 Filed 4–7–08; 8:45 am]

BILLING CODE 4410–10–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

[USCG–2008–0202]

Information Collection Request to Office of Management and Budget; OMB Control Numbers: 1625–0044, 1625–0045, and 1625–0060

AGENCY: Coast Guard, DHS.

ACTION: Sixty-day notice requesting comments.

SUMMARY: In compliance with the Paperwork Reduction Act of 1995, the U.S. Coast Guard intends to submit Information Collection Requests (ICRs) and Analyses to the Office of Management and Budget (OMB) requesting an extension of their approval for the following collections of information: (1) 1625–0044, Outer Continental Shelf Activities—Title 33 CFR Subchapter N; (2) 1625–0045, Adequacy Certification for Reception Facilities and Advance Notice—33 CFR part 158; and (3) 1625–0060, Vapor Control Systems for Facilities and Tank Vessels. Before submitting these ICRs to OMB, the Coast Guard is inviting comments as described below.

DATES: Comments must reach the Coast Guard on or before June 9, 2008.

ADDRESSES: To avoid duplicate submissions to the docket [USCG–2008–0202], please submit them by only one of the following means:

(1) *Online:* <http://www.regulations.gov>.

(2) *Mail:* Docket Management Facility (DMF) (M–30), U.S. Department of Transportation, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590–0001.

(3) *Hand delivery:* DMF between the hours of 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is 202–366–9329.

(4) *Fax:* 202–493–2251.

The DMF maintains the public docket for this notice. Comments and material received from the public, as well as documents mentioned in this notice as being available in the docket, will become part of this docket and will be available for inspection or copying at room W12–140 on the West Building Ground Floor, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. You may also find this docket on the Internet at <http://www.regulations.gov>.

A copy of the complete ICR is available through this docket on the Internet at <http://www.regulations.gov>. Additionally, copies are available from Commandant (CG–611), U.S. Coast Guard Headquarters (Attn: Mr. Arthur Requina), 2100 2nd Street, SW., Washington, DC 20593–0001. The telephone number is 202–475–3523.

FOR FURTHER INFORMATION CONTACT: Mr. Arthur Requina, Office of Information Management, telephone 202–475–3523, or fax 202–475–3929, for questions on these documents. Contact Ms. Renee V. Wright, Program Manager, Docket Operations, 202–366–9826, for questions on the docket.

SUPPLEMENTARY INFORMATION:

Public Participation and Request for Comments

The Coast Guard invites comments on whether this information collection request should be granted based on it being necessary for the proper performance of Departmental functions. In particular, the Coast Guard would appreciate comments addressing: (1) The practical utility of the collections; (2) the accuracy of the estimated burden of the collections; (3) ways to enhance the quality, utility, and clarity of information subject to the collections; and (4) ways to minimize the burden of

APPENDIX B
Biological Resources Plan

BIOLOGICAL RESOURCES PLAN
FOR
CONSTRUCTION, OPERATION, AND MAINTENANCE
OF TACTICAL INFRASTRUCTURE
FOR
TUCSON SECTOR, ARIZONA
NOGALES STATION



U.S. DEPARTMENT OF HOMELAND SECURITY
U.S. CUSTOMS AND BORDER PROTECTION
U.S. BORDER PATROL TUCSON SECTOR

Prepared by



APRIL 2009

ABBREVIATIONS AND ACRONYMS

BMP	Best Management Practices
BRP	Biological Resources Plan
CBP	Customs and Border Protection
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DHS	United States Department of Homeland Security
ESA	Endangered Species Act
FR	Federal Register
GIS	Geographical Information System
GPS	Global Positioning System
IIRIRA	Illegal Immigration Reform and Immigrant Responsibility Act
mph	miles per hour
NPS	National Park Service
PAC	Primary Activity Center
PCE	Primary Constituent Element
USACE	United States Army Corps of Engineers
USBP	United States Border Patrol
USFWS	United States Fish and Wildlife Service

EXECUTIVE SUMMARY

The U.S. Department of Homeland Security (DHS), Customs and Border Protection (CBP), U.S. Border Patrol (USBP) plans to construct, operate, and maintain tactical infrastructure consisting of primary pedestrian fencing, and supporting patrol and access roads and other infrastructure along the U.S./Mexico international border in Santa Cruz County, Arizona.

Table ES-1 outlines federally listed species and federally designated critical habitats known to occur or to potentially occur within or adjacent to the Project area and the determination of effects resulting from the Project.

Of the species listed in **Table ES-1**, the Project is likely to adversely affect the jaguar (*Panthera onca*) in areas associated with Section D-5.

The Project may affect, but is not likely to adversely affect, Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*), Chiricahua leopard frog (*Rana chiricahuensis*), Mexican spotted owl (*Strix occidentalis lucida*), lesser long-nosed bat (*Leptonycteris curasonae*), and ocelot (*Leopardus pardalis*) in areas associated with Section D-5.

The remaining federally listed species will not be affected by the Project, including: the Huachuca water-umbel (*Lilaeopsis schaffneriana* ssp. *Recurva*), Canelo Hills ladies' tresses (*Spiranthes delitescens*), Stephan's riffle beetle (*Hetrelmis stephani*), Huachuca springsnail (*Pyrgulopsis thomsoni*), desert pupfish (*Cyprinodon macularius*), Gila topminnow (*Poeciliopsis occidentalis occidentalis*), Gila chub (*Gila intermedia*), Sonora chub (*Gila ditaenia*), Sonora tiger salamander (*Ambystoma tigrinum stebbinsi*), California brown pelican (*Pelecanus occidentalis californicus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and yellow-billed cuckoo (*Coccyzus americanus*). Therefore, they will not be discussed in detail in this Biological Resources Plan (BRP).

On April 1, 2008, the Secretary of DHS, pursuant to his authority under Section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), exercised his authority to waive certain environmental and other laws to ensure expeditious construction of tactical infrastructure along the U.S./Mexico international border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under these laws, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment. To that end, CBP has prepared the following BRP, which analyzes the potential impacts on threatened and endangered species associated with construction of tactical infrastructure in the USBP's Tucson Sector. The BRP also discusses CBP's plans as to how potential impacts on threatened and endangered species can be mitigated. The BRP will help to guide CBP's efforts going forward.

Table ES-1. Determination of Effects on Federally Listed and Candidate Species within Section D-5

Species	Listing Status	Determination
PLANTS		
Canelo Hills ladies'-tresses, <i>Spiranthes delitescens</i>	Endangered	No effect
Huachuca water-umbel, <i>Lilaeopsis schaffneriana</i> ssp. <i>Recurva</i>	Endangered	No effect
Pima pineapple cactus, <i>Coryphantha scheeri</i> var. <i>robustispina</i>	Endangered	Not likely to adversely affect
INVERTEBRATES		
Stephan's riffle beetle, <i>Hetrelmis stephani</i>	Candidate	No effect
Huachuca springsnail, <i>Pyrgulopsis thomsoni</i>	Candidate	No effect
FISH		
Desert pupfish, <i>Cyprinodon macularius</i>	Endangered	No effect
Gila chub, <i>Gila intermedia</i>	Endangered	No effect
Gila topminnow, <i>Poeciliopsis occidentalis</i> <i>occidentalis</i>	Endangered	No effect
Sonora chub, <i>Gila ditaenia</i>	Threatened	No effect
AMPHIBIANS		
Chiricahua leopard frog, <i>Rana chiricahuensis</i>	Threatened	Not likely to adversely affect
Sonora tiger salamander, <i>Ambystoma tigrinum stebbinsi</i>	Endangered	No effect
BIRDS		
California brown pelican, <i>Pelecanus</i> <i>occidentalis californicus</i>	Proposed delisted	No effect
Mexican spotted owl, <i>Strix occidentalis lucida</i>	Threatened, with critical habitat designated east of the Project corridor	Not likely to adversely affect
Southwestern willow flycatcher, <i>Empidonax traillii extimus</i>	Endangered	No effect
Yellow-billed cuckoo, <i>Coccyzus americanus</i>	Candidate	No effect

Tucson Sector, Nogales Station, Biological Resources Plan

Species	Listing Status	Determination
MAMMALS		
Jaguar, <i>Panthera onca</i>	Endangered	Likely to adversely affect
Lesser long-nosed bat, <i>Leptonycteris curasonae</i>	Endangered	Not likely to adversely affect
Ocelot, <i>Leopardus pardalis</i>	Endangered	Not likely to adversely affect

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CHECK FINAL BIOLOGICAL RESOURCES PLAN USBP TUCSON SECTOR, NOGALES STATION

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1. PROJECT DESCRIPTION

The U.S. Department of Homeland Security (DHS), Customs and Border Protection (CBP), U.S. Border Patrol (USBP) plans to construct, operate, and maintain approximately 4 miles of tactical infrastructure along the U.S./Mexico international border. Tactical infrastructure will include primary pedestrian fence, four temporary staging areas, and a new construction/maintenance road. Construction is expected to be completed by December 2008.

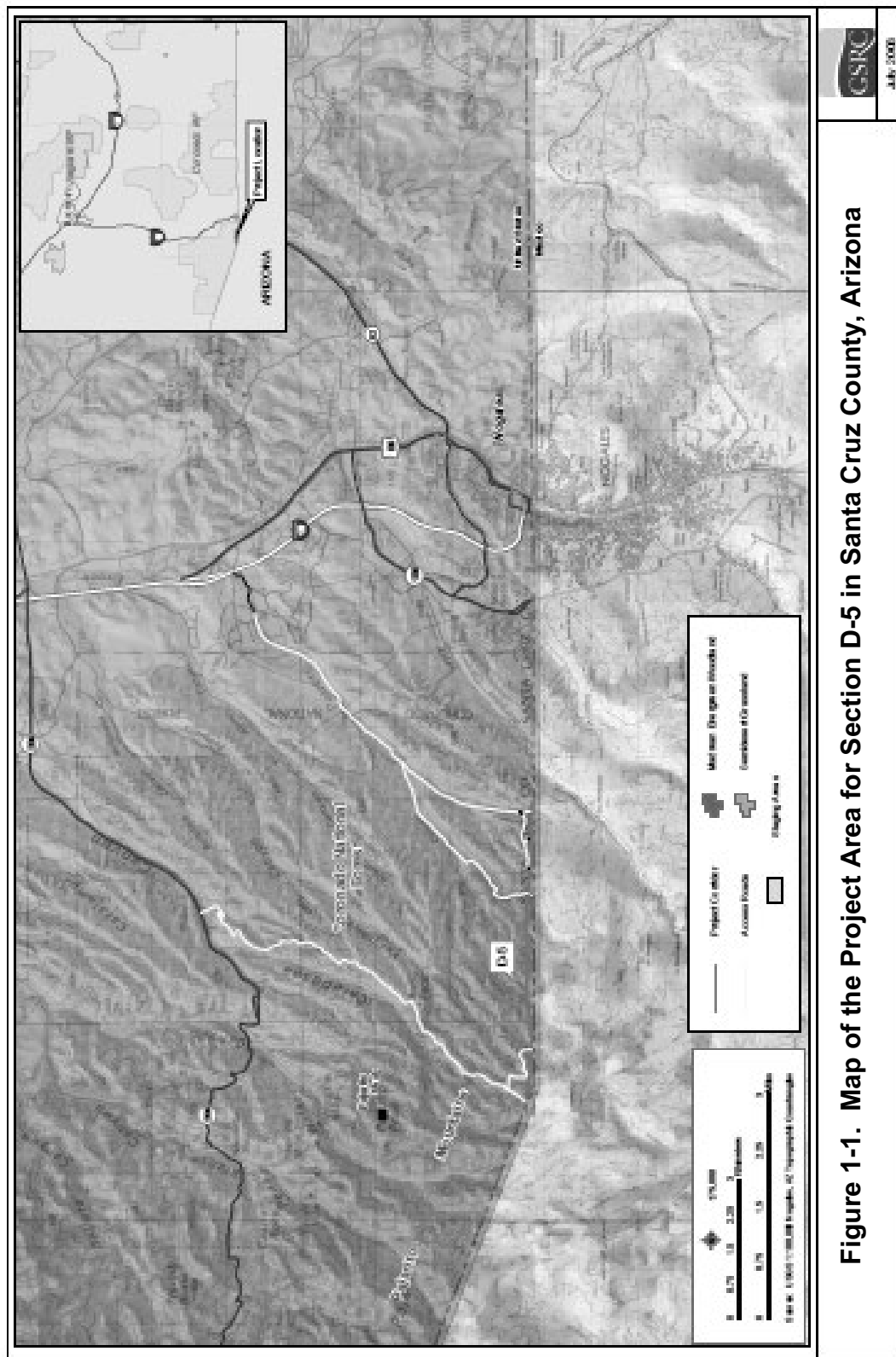
On April 1, 2008, the Secretary of DHS, pursuant to his authority under Section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), exercised his authority to waive certain environmental and other laws to ensure expeditious construction of tactical infrastructure along the U.S./Mexico international border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under these laws, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment. To that end, CBP has prepared this Biological Resources Plan (BRP), which analyzes the potential impacts on threatened and endangered species associated with construction of tactical infrastructure in the USBP's Tucson Sector. The BRP also discusses CBP's plans as to how potential impacts on threatened and endangered species can be mitigated. The BRP will help to guide CBP's efforts going forward.

1.1 LOCATION

CBP plans to construct, operate, and maintain tactical infrastructure consisting of primary pedestrian fence, construction staging areas, and new maintenance and construction access roads in one section (Section D-5) in the Tucson Sector in Santa Cruz County, Arizona (see **Figure 1-1**). The Project includes the construction, operation, and maintenance of tactical infrastructure along approximately 4 miles of the U.S./Mexico international border in Santa Cruz County, Arizona. Due to the rugged terrain, the majority of the primary pedestrian fence will be installed north of the Roosevelt Reservation. In order to construct and maintain the primary pedestrian fence in these areas, a construction/maintenance road (28 feet wide and 4 miles long) will be installed north of the primary pedestrian fence.

1.2 CONSTRUCTION, OPERATION, AND MAINTENANCE

The Project consists of the following components (1) the construction, operation, and maintenance of primary pedestrian fence along the U.S./Mexico international border; (2) the construction of a construction/maintenance road; and (3) the development of four temporary construction staging areas.



A road (28 feet wide and 4 miles long) will be constructed near the border in a manner that will allow installation and maintenance of the fence. The construction footprint will be 60 feet wide and will fall outside of the Roosevelt Reservation. This area constitutes the Project corridor in which all construction, operation, and maintenance activities will be conducted. Routine maintenance will occur, as needed, to preserve the integrity of the new and existing barrier fence. The barrier fence will be repaired, as needed, using welders and other equipment, and vegetation and debris within the Project corridor will be removed, as needed, to maintain visibility, mobility, and conveyance of floodwaters.

Nighttime construction activities will occur only when absolutely necessary for adequate concrete pours or in the case of an accelerated construction schedule. Therefore, to account for heat restrictions for adequate concrete drying and curing processes, most concrete pours for low-water crossings, other drainage structures, and fencing will need to take place during the pre-dawn hours of summer months. However, the possibility exists that work will have to occur on a 24-hour basis to maintain the schedule depending on weather or other unforeseen situations. In order to facilitate construction activities during these work hours, portable lights will be used. It is estimated that no more than 10 lights will be in operation at any one time at each Project site. A 6-kilowatt self-contained diesel generator will power these. Each unit typically has four 400- to 1,000-watt lamps. The portable light systems can be towed to the desired construction location, as needed. Upon completion of construction activities, all portable lights will be removed from the Project corridor. If construction or maintenance work activities continue at night, all lights will be shielded to direct light only onto the work site and the area necessary to ensure the safety and productivity of the workers. The minimum wattage needed will be used and the number of lights will be minimized. The lights could have shields placed over the lamps to reduce or eliminate the effects of backlighting.

1.2.1 Fence

Tactical infrastructure includes the construction of approximately 4 miles of new primary pedestrian fence (Fence Type PV-1). See **Figure 1-2** for a visual representation of this fence type.

The PV-1 fence is an anchored, 18-foot (aboveground) grout-filled steel bollard-style fence designed to prevent passage by both people and vehicles. Panels of PV-1 fence will be welded together off site and transported to the site by small trucks with lowboy trailers. Using a crane, fence panels will be positioned to be anchored in concrete. Construction of new fence will be completed using equipment such as a trencher or auger, a cement mixer, and a crane. A road will be constructed adjacent to the border to allow installation of the fence. Construction will require a 60-foot impact corridor (due to steep terrain), starting at the U.S./Mexican international border and extending northward. No pile driving will be required for construction of PV-1 fence.

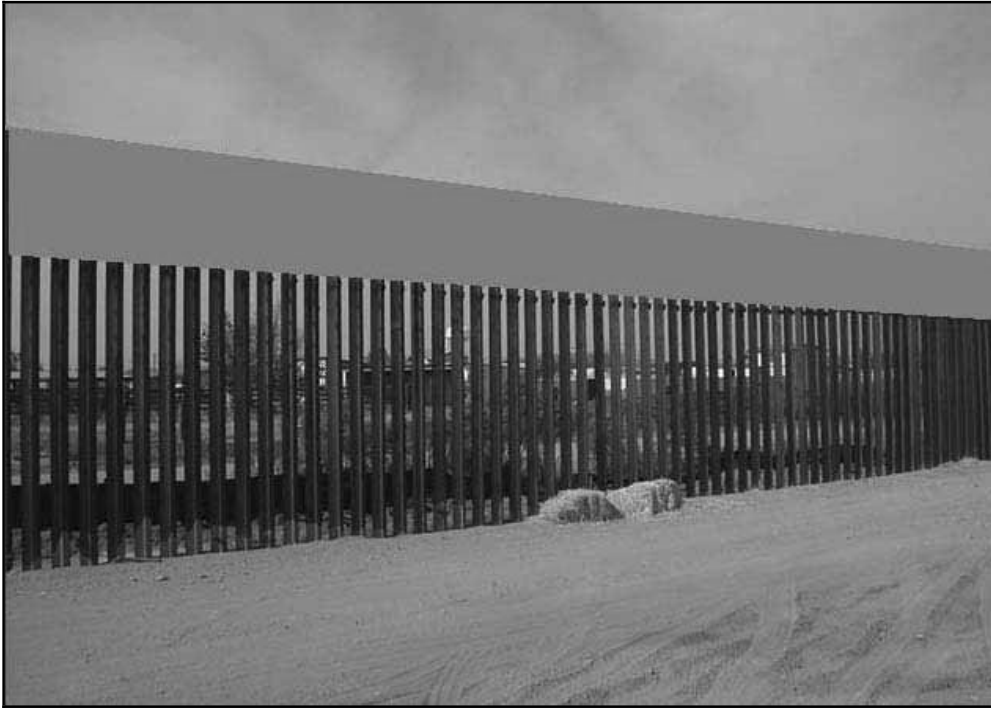


Figure 1-2. Primary Pedestrian Fence Type-1 (PV-1)

The Project will result in the permanent loss of 29 acres of vegetation for the primary pedestrian fence and 15 acres for the access road improvements and the temporary removal of 2 acres for the staging areas. All vegetation removed will be madrean evergreen woodlands. Madrean evergreen woodlands are described in detail in Section 8.1.1 of the ESP.

A Stormwater Pollution Prevention Plan (SWPPP) will be prepared and implemented to reduce potential stormwater erosion and sedimentation effects to local drainages. In addition, CBP will seek technical advice from the USACE Los Angeles District in determining mitigation measures to offset impacts to jurisdictional Waters of the U.S. and vegetated wetlands, as appropriate. If impacts on threatened and endangered species habitat occurred as a result of changes in hydrology associated with the Project, they would be compensated as appropriate.

1.2.2 Roads

As stated above, a construction/maintenance road will be constructed adjacent to the north side of the border in both sections. Additionally, existing construction access roads have been also been identified along the Project corridor (see **Figure 1-1**). The new construction/maintenance road will be 28 feet wide and 4 miles long. The existing access roads will be improved as part of the Project. These roads are maintained through use agreements between USBP and landowners.

1.2.3 Staging Areas

The Project includes the establishment of four temporary staging areas. Storage of equipment and materials at the temporary staging areas will result in the temporary disturbance of 2 acres of Madrean evergreen woodlands. Upon completion of construction activities, natural vegetation will be allowed to regenerate from the existing seed bank, undamaged root stocks of shrubs, and stem segments of cacti, or will undergo active rehabilitation if deemed necessary.

1.2.4 Fence Maintenance Operations

There will be no significant change in overall USBP Sector operations resulting from the Project. The pedestrian fence will be made from nonreflective steel and will not require any painting. Fence maintenance will include removing any accumulated debris on the fence after a rain event. Sand that builds up against the fence and brush will also be removed, as needed. Brush removal could include mowing, removal of small trees, and application of herbicide, if needed. Any destruction or breaches of the fence will be repaired, as needed.

1.3 BEST MANAGEMENT PRACTICES

1.3.1 General Best Management Practices

The following best management practices (BMPs) should be implemented to avoid or minimize impacts associated with the Project during construction. These represent Project objectives and will be implemented, to the extent practicable and will be incorporated into construction and monitoring contracts.

1. The perimeter of all areas to be disturbed during construction or maintenance activities in Section D-5 will be clearly demarcated using flagging or temporary construction fencing, and no disturbance outside that perimeter will be authorized.
2. CBP will develop (in coordination with U.S. Fish & Wildlife Service [USFWS]) a training plan regarding Trust Resources for construction personnel. At a minimum, the program will include the occurrence of the listed and sensitive species in the area, their general ecology, sensitivity of the species to human activities, protection afforded these species, and Project features designed to reduce the impacts on these species and promote continued successful occupation of the Project area environments by the species.

Included in this program will be color photos of the listed species, which will be shown to the construction personnel. Following the education program, the photos will be posted in the office of the contractor and resident engineer, where they will remain through the duration of the Project. The selected construction contractor will be responsible for ensuring that employees are aware of the listed species.

3. **Project Reports.** For construction and maintenance Projects (e.g., fences, towers, stations, facilities) within 3 months of Project completion, a Project Report will be developed that details the BMPs that were implemented, identifies how well the BMPs worked, discusses ways that BMPs could be improved for either protection of species and habitats or implementation efficiency, and reports on any federally listed species observed at or near the Project site. If site restoration was included as part of the Project, the implementation of such restoration and any follow-up monitoring will be included. Annual reports could be required for some longer-term Projects. The Project and any annual reports will be made available to the USFWS.
4. **Biological Surveys for each Project.** CBP will either assume presence of a federally listed species based on suitable habitat or known presence, and implement appropriate measures or will, as part of Project design and planning, perform reconnaissance-level preconstruction surveys to validate presence of suitable habitat.
5. **Relocation of individuals of federally listed plants found in the Project area is generally not a suitable activity.** Relocation of aquatic species such as the water umbel and ladies'-tresses is not appropriate. Relocation of small cacti has not been very successful, and is not recommended. A salvage plan will be developed and approved by the government prior to the action if appropriate. The CBP biological monitor will identify a location for storing any salvaged cactus and agaves. For particular actions, the USFWS will advise CBP regarding the relocation of plants.
6. **Individual federally listed animals found in the Project area will be relocated by a qualified biologist to a nearby safe location in accordance with accepted species-handling protocols to the extent practicable.**
7. **All construction Projects in habitats of federally listed species will have a qualified designated biological monitor on site during the work.** The biological monitor will document implementation of construction-related BMPs designed for the Project to reduce the potential for adverse effects on the species or their habitats. Weekly reports from the biological monitor should be used for developing the Project Report.
8. **Where, based on species location maps or results of surveys, individuals of a federally listed species could be present on or near the Project site, a designated biological monitor will be present during construction activities to protect individuals of the species from harm.** Duties of the biological monitor will include ensuring that activities stay within designated Project areas, evaluating the response of individuals that come near the Project site, and implementing the appropriate BMP. The designated biological monitor will notify the construction manager of any activities that might harm or harass an individual of a federally listed species. Upon such notification, the construction manager may temporarily suspend all activities in question and notify the Contracting Officer, the Administrative

Contracting Officer, and the Contracting Officer's Representative of the suspense so that the key U.S. Army Corps of Engineers (USACE) personnel can be notified and apprised of the situation and the situation can be resolved.

9. Where a construction Project could be located within 1 mile of occupied species habitats but the individuals of the species are not likely to move into the Project area, a biological monitor is not needed. However, the construction monitor will be aware of the species-specific BMPs and ensure that BMPs designed to minimize habitat impacts are implemented and maintained as planned. This category includes the lesser long-nosed bat and all aquatic species.
10. Particular importance is given to proper design and location of roads so that the potential for road bed erosion into federally listed species habitat will be avoided or minimized.
11. Particular importance is given to proper design and location of roads so that the potential for entrapment of surface flows within the roadbed due to grading will be avoided or minimized. Depth of any pits created will be minimized so animals do not become trapped.
12. Particular importance is given to proper design and location of roads so that the widening of existing or created roadbed beyond the design parameters due to improper maintenance and use will be avoided or minimized.
13. Particular importance is given to proper design and location of roads so that excessive use of unimproved roads for construction purposes that results in their deterioration that affects the surrounding federally listed species habitat areas will be minimized. Road construction and use for construction will be monitored and documented in the Project Report.
14. Particular importance is given to proper design and location of roads so that the fewest roads needed for construction will be developed and that these are maintained to proper standards. Roads no longer needed by the government should be closed and restored to natural surface and topography using appropriate techniques. The Global Positioning System (GPS) coordinates of roads that are thus closed should be recorded and integrated into the USBP Geographic Information System (GIS) database. A record of acreage or miles of roads taken out of use, restored, and revegetated will be maintained.
15. The width of all roads that are created or maintained by CBP for construction purposes will be measured and recorded using GPS coordinates and integrated into the USBP GIS database. Maintenance actions should not increase the width of the road bed or the amount of disturbed area beyond the roadbed.
16. Construction equipment will be cleaned using BMPs prior to entering and departing the Project corridor to minimize the spread and establishment of nonnative invasive plant species.

17. Surface water from untreated sources, including water used for irrigation purposes, will not be used for construction or maintenance Projects located within 1 mile of aquatic habitat for federally listed aquatic species. Groundwater or surface water from a treated municipal source will be used when close to such habitats. This is to prevent the transfer of invasive animals or disease pathogens between habitats if water on the construction site was to reach the federally listed species habitats.
18. Materials such as gravel or topsoil will be obtained from existing developed or previously used sources, not from undisturbed areas adjacent to the Project area.
19. If new access is needed or existing access requires improvements to be usable for the Project, related road construction and maintenance BMPs will be incorporated into the access design and implementation.
20. When available, areas already disturbed by past activities or those that will be used later in the construction period will be used for staging, parking, and equipment storage, where practicable.
21. Within the designated disturbance area, grading or topsoil removal will be limited to areas where this activity is needed to provide the ground conditions needed for construction or maintenance activities. Minimizing disturbance to soils will enhance the ability to restore the disturbed area after the Project is complete.
22. Removal of trees and brush in habitats of federally listed species will be limited to the smallest amount needed to meet the objectives of the Project. This type of clearing is likely to be a permanent impact on habitat.
23. Water for construction use will be from wells or irrigation water sources at the discretion of the landowner (depending on water rights). If local groundwater pumping creates an adverse effect on aquatic-, marsh-, or riparian-dwelling federally listed species, treated water from outside the immediate area will be utilized.
24. Surface water from aquatic or marsh habitats will not be used for construction purposes if that site supports aquatic federally listed species or if it contains nonnative invasive species or disease vectors and there is any opportunity to contaminate a federally listed species habitat through use of the water at the Project site.
25. Water tankers that convey untreated surface water will not discard unused water where it has the potential to enter any aquatic or marsh habitat.
26. Water storage on the Project area should be in closed on-ground containers located on upland areas, not in washes.
27. Pumps, hoses, tanks, and other water storage devices will be cleaned and disinfected with a 10 percent bleach solution at an appropriate facility before use at another site. If untreated surface water were used (this

water is not to enter any surface water area). If a new water source is used that is not from a treated or groundwater source, the equipment will require additional cleaning. This is important to kill any residual disease organisms or early life stages of invasive species that could affect local populations of federally listed species.

28. CBP will develop and implement storm water management plans for every Project.
29. All construction will follow DHS management directive 5130 for waste management.
30. A CBP-approved spill protection plan will be developed and implemented at construction and maintenance sites to ensure that any toxic substances are properly handled and that their escape into the environment is prevented. Agency standard protocols will be used. Drip pans underneath equipment, containment zones used when refueling vehicles or equipment, and other measures are to be included.
31. Nonhazardous waste materials and other discarded materials, such as construction waste, will be contained until removed from the construction site. This will assist in keeping the Project area and surroundings free of litter and reduce the amount of disturbed area needed for waste storage.
32. To prevent the attraction of predators of protected animals, all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed daily from the Project site.
33. Waste water is water used for Project purposes that is contaminated with construction materials, or was used for cleaning equipment and thus carries oils or other toxic materials or other contaminants in accordance with state regulations. Waste water will be stored in closed containers on site until removed for disposal. Concrete wash water will not be dumped on the ground, but is to be collected and moved offsite for disposal. This wash water is toxic to aquatic life.
34. If an individual of a federally listed species is found in the designated Project area, work will cease in the area of the species until either a qualified biological monitor can safely remove the individual, or it moves away on its own, to the extent practicable, construction schedule permitting.
35. Construction speed limits will not exceed 35 miles per hour (mph) on major unpaved roads (graded with ditches on both sides) and 25 mph on all other unpaved roads. Nighttime travel speeds will not exceed 25 mph, and might be less based on visibility and other safety considerations. Construction at night will be minimized.
36. No pets owned or under the care of the construction contractor or I construction workers will be permitted inside the Project's construction boundaries, adjacent native habitats, or other associated work areas.

This BMP does not apply to animals under service to the USBP (such as canine and horse patrols).

37. If construction or maintenance activities continue at night, all lights will be shielded to direct light only onto the area required for worker safety and productivity. The minimum wattage needed will be used and the number of lights will be minimized.
38. Light poles and other pole-like structures will be designed to discourage roosting by birds, particularly ravens or raptors that might use the poles for hunting perches.
39. Noise levels for day or night construction and maintenance will be minimized. All generators will be in baffle boxes (a sound-resistant box that is placed over or around a generator), have an attached muffler, or use other noise-abatement methods in accordance with industry standards.
40. Transmission of disease vectors and invasive nonnative aquatic species can occur if vehicles cross infected or infested streams or other waters and water or mud remains on the vehicle. If these vehicles subsequently cross or enter uninfected or noninfested waters, the disease or invasive species could be introduced to the new area. To prevent this, crossing of streams or marsh areas with flowing or standing water will be avoided by construction vehicles and equipment, and, if not avoidable, the construction vehicle/equipment will be sprayed with a 10 percent bleach solution.
41. Materials used for onsite erosion control in uninfested native habitats will be free of nonnative plant seeds and other plant parts, to the extent practicable, to limit potential for infestation. Since natural materials cannot be certified as completely weed-free, if such materials are used, there will be follow-up monitoring to document establishment of nonnative plants, and appropriate control measures will be implemented for a period of time to be determined in the site restoration plan.
42. Fill material brought in from outside the Project area will be identified with source location and will be weed-free to the extent practicable.
43. For purpose of construction, infrastructure sites will only be accessed using designated roads. Parking will be in designated areas. This will limit the development of multiple trails to such sites and reduce the effects to federally listed habitats in the vicinity.
44. Appropriate techniques to restore the original grade, replace soils, and restore proper drainage will be implemented for areas to be restored (e.g., temporary staging areas).
45. Maintenance activities in cactus and agave habitat will not increase the existing disturbed areas. Use of existing roads and trails will be maximized in areas of suitable habitat for cactus and agaves. Protection

of the cactus will be stressed in environmental education for contractors involved in construction or maintenance of facilities.

46. To prevent entrapment of wildlife species, hollow bollards (i.e., those that will be filled with a reinforcing material such as concrete) will be covered to prevent wildlife from entrapment. Covers will be deployed (and remain fully functioning) from the time the posts or hollow bollards arrive on the site and are unloaded, until they are filled with reinforcing material.
47. To prevent entrapment of wildlife species during the construction of the Project, all excavated, steep-walled holes or trenches will either be covered at the close of each working day by plywood or provided with one or more escape ramps constructed of earth fill or wooden planks. The ramps will be located at no greater than 1,000-foot intervals and will be sloped less than 45 degrees. Each morning before the start of construction and before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. Any animals so discovered will be allowed to escape voluntarily (by escape ramps or temporary structures), without harassment, before construction activities resume, or removed from the trench or hole by the biological monitor and allowed to escape unimpeded.

1.3.2 BMPs for Temporary Impacts

The following apply as offsetting conservation measures for temporary impacts.

1. Site restoration of temporarily disturbed areas such as staging areas and construction access routes will be monitored as appropriate.
2. During follow-up monitoring of any restoration areas, invasive plants that appear on the site will be removed. Mechanical removal will be done in ways that eliminate the entire plant and remove all plant parts to a disposal area. Herbicides can be used according to label directions. The monitoring period will be defined in the site restoration plan. Training to identify nonnative invasive plants will be provided for CBP contractor personnel, as necessary.
3. For temporary staging areas, a site restoration plan for federally listed species and habitat will be developed during Project planning and provide an achievement goal to be met by the restoration activity. If seeding with native plants is identified as appropriate, seeding will take place at the proper season and with seeds from nearby stocks, to the extent practicable. It is understood that some sites cannot be restored, and the Project planning documents should acknowledge this.

1.3.3 Species-Specific BMPs

Pima Pineapple Cactus

1. Maintenance activities in Pima pineapple cactus habitat should not increase the existing disturbed areas, subsequent to the construction of the Project.
2. Use of existing roads and trails should be maximized in areas of suitable habitat for the Pima pineapple cactus. Suitable habitat areas will be described in environmental education for CBP personnel and contractors involved in construction or maintenance of facilities.
3. Salvage of individual Pima pineapple cactus, if any previously undiscovered specimens are found, will be considered only when onsite or offsite habitat conservation is not possible and death of the individual is unavoidable.

Chiricahua Leopard Frog

1. Roads will be designed to minimize animal collisions and fragmentation of federally listed populations. Exclusion fencing might be appropriate where road kill is likely or to direct species to underpasses or other passageways. Specific protocols are available for Chiricahua leopard frog.
2. Monitoring of effects on the frog's terrestrial and aquatic habitat during construction could be required. Disease prevention protocols will be employed if the Project is in areas known or likely to harbor chytridiomycosis (consult with the USFWS to identify these areas). In such cases, if vehicles/equipment use will occur in more than one frog habitat, ensure that all equipment is clean and dry or disinfected before it moves to another habitat.
3. To the extent practicable, removal of riparian vegetation within 100 feet of aquatic habitats will be avoided to provide a buffer area to protect the habitat from sedimentation.

Mexican Spotted Owl

1. Roads, fences, security zones, surveillance sites, and other facilities that require land clearing and have associated noise and artificial light components will be at least 1 mile from any known Primary Activity Center (PAC) whenever practicable. Firebreaks, fuels reduction, or other improved access for fire suppression will be incorporated, as appropriate in the placement of facilities. Facilities will not be located between nests and important forage areas such that movement between the two is compromised, to the extent practicable.

2. To the extent compatible with operational needs, new roads in the vicinity of PACs and other important habitat areas will be avoided to avoid effects of human activity near PACs.
3. Construction activities for roads, fences, or other facilities that must be built closer than one mile to owl habitat should occur between September and February to the extent practicable to avoid the owl breeding season (March 1 through August 31). Staging areas for equipment and supplies will be as far as practicable from owl habitats.
4. Maintenance activities for facilities can occur at any time; however, for major work on roads or fences where significant amount of equipment will be required, the September to February period is preferred.
5. Construction and maintenance activities will be conducted during daylight hours only to avoid noise and lighting issues during the night. If construction or maintenance work activities continue at night, all lights will be shielded to direct light only onto the work site and the area necessary to ensure the safety and productivity of the workers. The Project management plan will provide for a report describing the implementation of the BMPs and their effectiveness. This report will be prepared at the completion of the Project and made available to the USFWS. Documentation of completion of any mitigation actions will be included in the report.

Jaguar and Ocelot

1. If construction or maintenance activities continue at night, all lights will be shielded to direct light only onto the work site and the area necessary to ensure the safety and productivity of the workers.
2. Roads will be designed to minimize animal collisions and fragmentation of threatened and endangered populations to the extent practicable.

Lesser Long-Nosed Bat

1. When planning activities, avoid areas containing columnar cacti (e.g., saguaro and organ pipe) or agaves that provide the forage base for the bat. If they cannot be avoided, columnar cacti and agaves will be salvaged and transplanted to the extent practicable prior to construction activity. Any restoration (e.g., planting of cacti or agaves raised offsite or purchased) will be a compensation measure (see Compensation Measures below).
2. Maintenance activities for facilities can occur at any time; however, for major work on roads or fences where significant amounts of equipment will be required, the October to April period is the preferred period for such activities

3. If construction or maintenance activities continue at night, all lights will be shielded to direct light only onto the work site and the area necessary to ensure the safety and productivity of the workers.

1.3.4 Compensation Measures

It is CBP's policy to reduce impacts through the sequence of avoidance, minimization, and mitigation. Current estimates indicate that 44 acres of Madrean evergreen woodlands will be affected, which is habitat for jaguar, ocelot, and lesser long-nosed bat. The project is likely to adversely affect jaguar. Additionally, the Project may affect, but is not likely to adversely affect Pima pineapple cactus, Chiricahua leopard frog, Mexican spotted owl, lesser long-nosed bat, and ocelot. If the Project results in adverse impacts on these species, CBP will mitigate, as appropriate. Actual impacts on habitats will be documented during construction by the environmental monitors and included in the Project Report that will be made available to USFWS.

Permanent direct and indirect impacts on Federal species and their habitats could be offset using the following conservation actions.

Lesser Long-Nosed Bat

1. When salvage is not possible, conduct restoration for columnar cacti and agaves as appropriate.
2. Plant Palmer's agave in suitable areas as part of revegetation and erosion-control actions. This will enhance foraging opportunities.

2. DESCRIPTION OF SPECIES AND THEIR HABITAT

This section summarizes information regarding some of the key species and habitats addressed in this document. Some listed species are not included here because the implementation of the agreed-upon BMPs and conservation measures are anticipated to provide conditions that avoid adverse effect. For more complete information and supporting reference material regarding species' descriptions, distribution and abundance, habitat needs, life history, and population ecology, the local USFWS office can be contacted.

2.1 PIMA PINEAPPLE CACTUS

The Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*) was listed as endangered on September 23, 1993 (58 Federal Register [FR] 49875) without critical habitat.

It is protected from international trade by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The Pima pineapple cactus is also known as Scheer's strong-spined cory cactus. *Mammillaria robustispina* is a synonym for *Coryphantha scheeri* var. *robustispina*. This species can be confused with juvenile barrel cactus (*Ferocactus*) (USFWS 2000a).

2.1.1 Species Description

The Pima pineapple cactus is a low-growing cactus species that can be found as single or multi-stemmed plants. The species grows in the transition zone between the semi-desert grasslands and Sonoran desertscrub on alluvial bajadas and slopes of less than 10 percent at elevations between 2,300 and 4,600 feet (USFWS 2000a).

The Pima pineapple cactus is an attractive hemispherical plant; the adults measure 10 to 46 centimeters (4 to 18 inches) tall and 7.5 to 18 centimeters (3 to 7 inches) in diameter. The spines appear in clusters with one strong, usually hooked central spine and 6 to 15 straight radial spines. The spines are very stout, usually straw-colored, but become black with age. The plants can be single-stemmed, multiheaded, or can appear in clusters. The flowers are silky yellow (rarely white) in color and appear in early July with the summer rains. Flowering continues until August. The fruit is green, ellipsoid, succulent, and sweet (USFWS 2000a).

2.1.2 Distribution and Abundance

Currently, Pima pineapple cactus is found at elevation from 700 to 1,400 meters (2,300 to 4,500 feet) above sea level in Pima and Santa Cruz counties, Arizona, and northern Sonora, Mexico. The range extends east from the Baboquivari Mountains to the western foothills of the Santa Rita Mountains. The

northernmost boundary is near Tucson. Potential habitat for this species is difficult to estimate due to its habitat requirements and the topographic complexity within its range (USFWS 2000a).

Suitable habitat for the Pima pineapple cactus exists throughout the Project corridor; however, no Pima pineapple cacti were observed within the Project footprint during the May and July 2008 biological resources surveys (CBP 2008). Additionally, there are no NatureServe elements of occurrence for Pima pineapple cactus within the Project corridor or near access and construction/maintenance roads.

2.1.3 Habitat

The Pima pineapple cactus grows in alluvial basins or on hillsides in semi-desert grassland and Sonoran desertscrub in southern Arizona and northern Mexico. Soils range from shallow to deep, and silty to rocky, with a preference for silty to gravely deep alluvial soils. The plant occurs most commonly in open areas on flat ridge tops or areas with less than 10 to 15 percent slope (USFWS 2000a).

2.1.4 Threats

Threats to this species include illegal collection; habitat degradation due to recreation and historical and present overuse of the habitat by livestock; habitat loss due to mining, agriculture, road construction, urbanization; aggressive non-native grasses; and range management practices to increase livestock forage (USFWS 2000a).

2.2 CHIRICAHUA LEOPARD FROG

The Chiricahua leopard frog (*Lithobates [Rana] chiricahuensis*) was listed as threatened on June 13, 2002 (67 FR 40790) without critical habitat.

At listing, a special rule was finalized that exempts incidental take of frogs due to operation and maintenance of livestock tanks on non-Federal lands from the Section 9 take prohibitions of the Endangered Species Act (ESA). A recovery plan was completed in April 2007. Safe Harbor agreements are in place throughout the range of the species in Arizona and southwestern New Mexico (USFWS 2008a).

2.2.1 Species Description

The Chiricahua leopard frog has a distinctive pattern on the rear of the thigh consisting of small, raised, cream-colored spots or tubercles on a dark background; dorsolateral folds that are interrupted and deflected medially; stocky body proportions; relatively rough skin on the back and sides; and often green coloration on the head and back. The species also has a distinctive call consisting of a relatively long snore of 1 to 2 seconds in duration. Snout-vent

lengths of adults range from approximately 54 to 120 millimeters (2.1 to 4.7 inches) (USFWS 2008a).

Leopard frogs from the eastern slope of the Huachuca Mountains in Cochise County, Arizona, were described as the Ramsey Canyon leopard frog (*Rana subaquavocalis*), but consensus in the herpetological community is that it is actually a population of the Chiricahua leopard frog. However, until such time that the listing is revised; the Ramsey Canyon leopard frog is not considered listed under the ESA. Populations of the Chiricahua leopard frog in central and east-central Arizona and west-central New Mexico (Mogollon Rim form) are disjunct from those in southeastern Arizona, southwestern New Mexico, and Mexico and might represent a distinct species (USFWS 2008a).

2.2.2 Distribution and Abundance

A total of 298 and 182 historical localities are known for the species in Arizona and New Mexico, respectively. An additional 34 localities are known from Sonora and Chihuahua, Mexico (USFWS 2008a).

The species' current range is similar to its historical range, but the frog is not well-represented in many areas now, and has apparently disappeared from some drainages and mountain ranges. A total of 298 and 182 historical localities are known for the species in Arizona and New Mexico, respectively. An additional 34 localities are known from Sonora and Chihuahua, Mexico. At the time of listing (2002) the frog was likely extant at 31 to 41 localities in Arizona and New Mexico, respectively. The most recent reports, from February 2008, estimate the frog is extant at 30 to 35 localities in Arizona and New Mexico. The status of the 34 collection localities in Mexico is poorly known (USFWS 2008a).

2.2.3 Habitat

The Chiricahua leopard frog was historically an inhabitant of cienegas, pools, livestock tanks, lakes, reservoirs, streams, and rivers at elevations of 1,000 to 2,710 meters (3,281 to 8,890 feet) in central, east-central, and southeastern Arizona (Santa Cruz, Apache, Gila, Pima, Cochise, Greenlee, Graham, Yavapai, Coconino, and Navajo counties); west-central and southwestern New Mexico; and, in Mexico, in northeastern Sonora and the Sierra Madre Occidental of northwestern Chihuahua. The Chiricahua leopard frog is now often restricted to springs, livestock tanks, and streams in the upper portions of watersheds where nonnative predators either have yet to invade or habitats are marginal. Distribution and habitat use of the Chiricahua leopard frog in Mexico are poorly known (USFWS 2008a).

Monument Tank, which is approximately 60 feet north of the Project corridor, was historically suitable habitat (Gelinas 2008). There is one NatureServe element of occurrence on the eastern side of the western access road. However, the May 2008 biological resources survey indicated that there was not suitable habitat along the access road or within the Project corridor (Gelinas 2008). Additionally,

no Chiricahua leopard frogs were observed in the May or July 2008 biological resources surveys (CBP 2008a).

2.2.4 Threats

The most serious threats to this species include predation by nonnative organisms, especially bullfrogs, fish, and crayfish; and an apparently introduced fungal skin disease (chytridomycosis or “Bd”) that is killing frogs and toads around the globe. Other threats include drought, floods, wildfires, degradation and destruction of habitat, water diversions and groundwater pumping, disruption of metapopulation dynamics (relationships among populations of frogs), increased chance of extirpation or extinction resulting from small numbers of populations and individuals, and environmental contamination (USFWS 2008a).

2.3 MEXICAN SPOTTED OWL

The Mexican spotted owl (*Strix occidentalis lucida*) was listed as threatened on March 16, 1993 (58 FR 14248) with critical habitat (69 FR 53182, August 31, 2004).

The majority of the owls are found on National Forests lands. They are also found on tribal lands, National Park Service lands, and Bureau of Land Management lands (USFWS 2008b).

Critical habitat is designated in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, and Yavapai counties in Arizona. Critical habitat also occurs in New Mexico, Utah, and Colorado. Tribal lands within Arizona are excluded from Mexican spotted owl critical habitat designation under Section 4(b)(2) of the Act (USFWS 2008b).

2.3.1 Species Description

Unlike most owls, Mexican spotted owls have dark eyes. They are an ashy-chestnut brown color with white and brown spots on their abdomen, back and head. Their brown tails are marked with thin white bands (USFWS 2008b).

The species is a medium-sized owl with large dark eyes and no ear tufts. Plumage is brown with numerous white spots and posterior underparts have short, horizontal bars or spots. Length is about 0.4 meters (17 inches) and wingspan is 1.0 meter (3.3 feet) (USFWS 2008b).

2.3.2 Distribution and Abundance

Historically the range of the species extended from the southern Rocky mountains in Colorado and the Colorado Plateau in southern Utah southward through Arizona, New Mexico, and far western Texas, through the Sierra Madre Occidental and Oriental, to the mountains at the southern end of the Mexican Plateau (USFWS 2008b).

The present range is thought to be similar to the historical range. Populations in Arizona are patchily distributed and occur where appropriate habitat is present throughout all but the arid southwestern portion of the state (USFWS 2008b).

The Project occurs in Mexican spotted owl critical habitat. The closest primary activity center is approximately 1 mile from the Project. No Mexican spotted owls were observed during the May and July 2008 biological resources surveys (CBP 2008). Additionally, there are no NatureServe elements of occurrence of Mexican spotted owl within the Project corridor or near access and construction/maintenance roads.

2.3.3 Habitat

The species occurs in varied habitat, consisting of mature montane forest and woodland, shady wooded canyons, and steep canyons. In forested habitat, uneven-aged stands with a high canopy closure, high tree density, and a sloped terrain appear to be key habitat components. They can also be found in mixed conifer and pine-oak vegetation types. They generally nest in older forests of mixed conifer or ponderosa pine/Gambel oak. Nests are found in live trees in natural platforms (e.g., dwarf mistletoe brooms), snags, and on canyon walls. Elevation ranges from 1,249 to 2,743 meters (4,100 to 9,000 feet) (USFWS 2008b).

2.3.4 Threats

The species is threatened because of destruction and modification of nesting habitat. The primary threat is believed to be unnatural fuel loadings and the resultant threat of high-severity, stand-replacing wildfire (USFWS 2008b).

2.4 MEXICAN SPOTTED OWL CRITICAL HABITAT

Although the vegetative communities and structural attributes used by the owl vary across the range of the subspecies, they consist primarily of warm-temperate and cold-temperate forests, and, to a lesser extent, woodlands and riparian deciduous forests. The mixed-conifer community appears to be the most frequently used community throughout most portions of the subspecies' range (66 FR 8530). Primary constituent elements (PCEs) for Mexican spotted owls are grouped by forest and canyon habitats to reflect differences in elements of these habitats which meet life history requirements and by elements related to maintenance of adequate prey species.

PCEs related to forest structure include the following:

- A range of tree species, including mixed conifer, pine-oak, and riparian forest types, composed of different tree sizes reflecting different ages of trees, 30 percent to 45 percent of which are large trees with a trunk diameter of 12 inches or more when measured at 4.5 feet from the ground

- A shade canopy created by the tree branches covering 40 percent or more of the ground
- Large dead trees (snags) with a trunk diameter of at least 12 inches when measured at 4.5 feet from the ground.

PCEs related to canyon habitat include one or more of the following:

- Presence of water (often providing cooler and often higher humidity than the surrounding areas)
- Clumps or stringers of mixed-conifer, pine-oak, pinyon-juniper, or riparian vegetation
- Canyon wall containing crevices, ledges, or caves
- High percent of ground litter and woody debris.

PCEs related to maintenance of adequate prey species include the following:

- High volumes of fallen trees and other woody debris
- A wide range of tree and plant species, including hardwoods
- Adequate levels of residual plant cover to maintain fruits and seeds, and allow plant regeneration.

Section D-5 lies within designated critical habitat Unit BR-W-13 for the Mexican spotted owl in the Coronado National Forest. However, the Project action area contains no primary constituent elements of forest structure, canyon habitat, or prey species (Gelinas 2008). PCEs related to forest structure are lacking, such as a shade canopy created by tree branches covering 40 percent or more of the ground and large dead trees (snags) with a trunk diameter of at least 12 inches when measured at 4.5 feet from the ground. The Project corridor also lacks high volumes of fallen trees and other woody debris which is a primary constituent element related to the maintenance of adequate prey species. Additionally, two primary constituent elements related to canyon habitat are also lacking. These include the presence of water and Tucson Sector Tactical Infrastructure canyon walls which contain crevices, ledges, or caves. **Figure 2-1** presents photographs of the typical Madrean Evergreen Woodland that occur in the Project corridor.

2.5 JAGUAR

The U.S. population of jaguar (*Panthera onca*) was listed as endangered on July 22, 1997 (62 FR 39147) without critical habitat. Non-U.S. population was listed as endangered on March 30, 1972 (37 FR 6476).



**Figure 2-1. Photographs of Typical Madrean Evergreen Woodlands
Located in the Project Corridor**

The species is protected from international trade by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

2.5.1 Species Description

The species is a large, heavy-bodied, big-headed cat. Yellowish to tawny, spotted with black rosettes or rings in horizontal rows along the back and sides; most rings are tan inside, with one or two black spots. Legs, head, and tail have smaller, solid spots, usually giving way to incomplete bands near the end of the tail (USFWS 2000b).

The jaguar is the largest species of cat native to the Western Hemisphere. The species is muscular, with relatively short, massive limbs, a deep-chested body, cinnamon-buff in color with many black spots. Their weight ranges widely from 40 to 135 kilograms (90 to 300 pounds). Their average length is 2.4 meters (7.8 feet) from head to tail tip (USFWS 2000b).

2.5.2 Distribution and Abundance

The historic range included California, Arizona, New Mexico, Louisiana, south through Texas, and into central South America. In Arizona they were found in the mountainous parts of eastern Arizona to the Grand Canyon (USFWS 2000b).

The current range includes central Mexico and into central South America as far south as northern Argentina. There are no known breeding populations in the United States (USFWS 2000b).

Based upon the jaguar distribution patterns in southeast Arizona, it is suspected that there are habitat corridors in Mexico that connect southeast Arizona to the northern-most established jaguar population in the Sierra Madres (Hatten et al. 2002). Sightings have been documented west and east of the Project corridor within Coronado National Forest (Hatten et al. 2002). However, no jaguars, scat, or tracks were observed during the May and July 2008 surveys (CBP 2008). Additionally, there are no NatureServe elements of occurrence of jaguar within the Project corridor or near access and construction/maintenance roads. One jaguar was sighted north of the Section D-5 corridor in the Atascosa Mountains complex in late July and early August 2008. The same jaguar was recorded twice by cameras that were approximately ten miles apart (Lackner 2008). This is likely the jaguar known as Macho B, which was euthanized due to kidney failure in March 2009 (AGFD and USFWS 2009).

2.5.3 Habitat

The species is mainly found near water in the warm tropical climate of savannah and forest and rarely in extensive arid areas. Individuals in Arizona have been found in Sonoran desertscrub up through subalpine conifer forest (USFWS 2000b).

2.5.4 Threats

Loss and modification of habitat, shooting, and predator control have contributed to the decline of this species (USFWS 2000b).

2.6 LESSER LONG-NOSED BAT

The lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*) was listed as endangered on September 30, 1988 (53 FR 38456) without critical habitat.

2.6.1 Species Description

The lesser long-nosed bat is a yellow-brown or cinnamon gray bat, with a total head and body measurement of approximately 7.62 centimeters (3 inches). The tongue measures approximately the same length as the body. This species also has a small noseleaf. The wingspan of *L. curasoae* is approximately 25 centimeters (10 inches) and the mass is roughly 23 grams. Previously known as Sanborn's long-nosed bat (*Leptonycteris sanborni*), the species is a medium-sized bat slightly smaller than the Mexican long-nosed bat (USFWS 2001).

2.6.2 Distribution and Abundance

The species historically ranged from central Arizona and southwestern New Mexico through much of Mexico to El Salvador. Records exist for occurrences in the southern Peloncillo Mountains of New Mexico (USFWS 2001).

The current range is similar to historic; however, the number of occupied roost sites and the number of individuals per colony have recently declined drastically. These bats are seasonal (April–September) residents of southeastern Arizona, and possibly extreme western Arizona (Cochise, Pima, Santa Cruz, Graham, Pinal and Maricopa counties) (USFWS 2001). This species is present in Arizona usually from April to September and south of the border the remainder of the year.

Although no potential roosts were observed within or adjacent to the Project corridor during the May and July 2008 surveys, at least one roost is known to occur 0.9 mile north of the Project corridor. Scattered agave were observed throughout the Project corridor at very low densities. Additionally, there are no NatureServe elements of occurrence of lesser long-nosed bats within the Project corridor or near access and construction/maintenance roads.

2.6.3 Habitat

Habitat for the species includes mainly desert scrub habitat in the U.S. portion of its range. In Mexico, the species occurs up into high elevation pine-oak and ponderosa pine forests. Altitudinal range is from 480 to 3,450 meters (1,600 to 11,500 feet). Roosting is in caves, abandoned mines, and unoccupied buildings

at the base of mountains where agave, saguaro, and organ pipe cacti are present. The species forages at night on nectar, pollen, and fruit of paniculate agaves and columnar cacti (USFWS 2001).

2.6.4 Threats

Considerable evidence exists for the interdependence of *Leptonycteris* bat species and certain agaves and cacti. Excess harvest of agaves in Mexico; the collection of cacti in the United States; and the conversion of habitat for agricultural uses, livestock grazing, wood-cutting, and other development could contribute to the decline of long-nosed bat populations. These bats are particularly vulnerable due to many individuals using only a small number of communal roosts (USFWS 2001).

2.7 OCELOT

The ocelot (*Leopardus pardalis*) was listed as endangered on March 28, 1972.

2.7.1 Species Description

A small spotted cat with a long tail; ground color ranges from whitish or tawny yellow to reddish gray and gray; dark markings form chainlike streaks, generally forming black-bordered elongated spots, which run obliquely down the sides; adult total length 92 to 137 centimeters, tail length 27 to 40 centimeters; mass 11 to 16 kilograms; greatest length of skull of adults, 120 to 158 millimeters. The ocelot differs from the jaguar in that it is much smaller in size and that pelage spots do not form distinct rosettes (NatureServe 2008).

2.7.2 Distribution and Abundance

The historic range of the ocelot includes Texas, Louisiana, Arkansas, and Arizona south through Mexico, Central America, and South America to eastern Peru, eastern Bolivia, Paraguay, Uruguay, and northern Argentina. This feline species occurs in the mountains of Colombia, Ecuador, and northern Peru, but not on the high plateaus of southern Peru and Bolivia; recently recorded in Uruguay; to elevations of 1,000 meters. In the United States, the species is currently found regularly only in southern Texas (e.g., Laguna Atascosa National Wildlife Refuge, site of a recent radiotelemetry study). Occurrence in Arizona is based only on a few old records from the vicinity of Fort Verde and Patagonia; documentation for these records is less than ideal (NatureServe 2008).

Fewer than 1,000 individuals of the subspecies, in Texas and adjacent northeastern Mexico to southern Tamaulipas, are thought to survive. Approximately 100 to 130 individuals are estimated in Texas. Abundance estimates are unknown elsewhere (NatureServe 2008).

Virtually nothing is known of the ocelot in Arizona but reports of ocelots in southeastern Arizona warrant further investigation of its status in Arizona and

northern Sonora. Dense brush areas along ridges and within canyons in the Project corridor could provide suitable ocelot habitat. No ocelots, scat, or tracks were observed during the May and July 2008 surveys. Additionally, there are no NatureServe elements of occurrence of ocelots within the Project corridor or near access and construction/maintenance roads.

2.7.3 Habitat

The ocelot inhabits desert-scrub communities in Arizona (AGFD 2004). The critical component in suitable habitat for the ocelot is dense cover. The minimum acreage required for an area to be classified as suitable habitat is 99 acres of brush or 74 acres of two or more proximate brush stands (USFWS 1990).

2.7.4 Threats

Populations are reduced or declining in many areas, though good data are scant. Clearing of brush for agricultural purposes has been a problem in the northern part of the range. Populations have declined throughout much of the Central and South American range due to hunting for fur (now curtailed compared to previous large harvests), predator control, and habitat loss (NatureServe 2008).

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3. ACTION AREA

The action area consists of all lands that will be directly and indirectly impacted by the Project and are known to be occupied or potentially occupied by federally listed species. The Action Area is defined by a corridor that extends approximately 300 feet from construction access routes, staging areas, and construction sites. This is the area directly affected by the Project. The extension of 300 feet represents the approximate distance that Project-related noise is estimated to attenuate to ambient noise levels of 55 to 80 A-weighted decibels (see **Figure 1-1** for a map of the Action Area).

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4. EFFECTS OF THE PROJECT

The following is an analysis of the effects of the Project. Implementation of the Project in Section D-5 is likely to adversely affect jaguar (*Panthera onca*) and is not likely to adversely affect the Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*), Chiricahua leopard frog (*Rana chiricahuensis*), Mexican spotted owl (*Strix occidentalis lucida*), lesser long-nosed bat (*Leptonycteris curasonae*), and ocelot (*Leopardus pardalis*). Based on survey results and the implementation of BMPs, the Project is not likely to directly adversely affect individuals or populations of federally listed plants, but could directly affect potential habitat for these species. Implementing general and species-specific BMPs will help to avoid impacts on these species and their habitats (see **Section 1.3.2**).

4.1 PIMA PINEAPPLE CACTUS

The Project is not likely to adversely affect Pima pineapple cactus in Section D-5. The species has the potential to occur within or near the Project corridor. Suitable habitat for Pima pineapple cactus occurs within the Project corridor. However, no individuals were documented during the May and July 2008 surveys and no NatureServe elements of occurrence are documented within the Project corridor.

Project-related losses of approximately 44 acres of habitat are not likely to adversely affect this species. Loss of more than 44 acres of habitat is negligible relative to the available habitat for this species. Upon completion of construction activities in the staging areas, natural vegetation will be allowed to regenerate from the existing seed bank, undamaged root stocks of shrubs, and stem segments of cacti, or undergo active rehabilitation if deemed necessary.

Fence placement and the associated road could lead to habitat degradation from potential erosion and altered hydrology. There is also the potential for introduction of exotic plant species through construction activities and use of new and existing roads. Implementing general and species-specific BMPs will help to avoid impacts on Pima pineapple cactus in Section D-5.

Vehicle traffic, foot traffic, and presence of illegal cross border violators can affect habitat by altering composition, structure, and function of habitat. However, the overall purpose of the Project is to reduce illegal cross-border traffic. Changes in illegal traffic patterns associated with illegal cross border violators result from a variety of factors; and therefore, are considered unpredictable and beyond the scope of this BRP.

4.2 CHIRICAHUA LEOPARD FROG

The Project is not likely to adversely affect Chiricahua leopard frog in Section D-5. The species has the potential to occur within or near the Project corridor.

However, May and July 2008 biological resources surveys indicate that no suitable habitat occurs within the Project impact area. NatureServe data indicate that the Chiricahua leopard frog occurs approximately 0.25 miles north of the fence alignment at the western end of D-5, on the access road. The May 2008 biological resources survey indicated that this is no longer suitable habitat for the Chiricahua leopard frog (Gelinas 2008). Based on topographical maps of the Coronado National Forest, the Chiricahua leopard frog occurrence was adjacent to the Monument Tank within the Pesqueria Canyon.

Illegal cross border violators can affect Chiricahua leopard frog habitat, particularly in canyons, by increasing fire risk (warming and diversion fires), off-road vehicle traffic and resulting damage to watersheds (altering composition, structure, and function of habitat), possible road kills of frogs on roads close to occupied tanks/habitats, and possibly by spreading disease (although it is probably widespread in that area) (Spangle 2008). However, the overall purpose of the Project is to reduce illegal cross-border traffic. Changes in illegal traffic patterns associated with illegal cross border violators result from a variety of factors; and therefore, are considered unpredictable and beyond the scope of this BRP.

4.3 MEXICAN SPOTTED OWL

The Project is not likely to adversely affect Mexican spotted owl in Section D-5. There are no known occupied areas by the Mexican spotted owl in the Project corridor. The closest primary activity center and NatureServe element of occurrence of the Mexican spotted owl, is approximately 1 mile west of the Project corridor.

Approximately 44 acres of madrean evergreen woodlands will be permanently impacted by the Project. This impact is not likely to adversely affect the species. The results of the May and July 2008 biological resources surveys indicate that the madrean evergreen woodlands at the Project site do not contain the density and structural characteristics suitable for Mexican spotted owl nesting habitat (Gelinas 2008). Additionally, implementing general and species-specific BMPs will help to avoid impacts on Mexican spotted owl in Section D-5.

Human activity and elevated noise levels during construction could disturb any Mexican spotted owl in the immediate area and the species could be temporarily displaced from the area. The impacts of noise include subtle, localized impacts from the overall elevation of ambient noise levels during construction. Noise levels after construction are anticipated to return to close to current ambient levels.

Nighttime construction can temporarily affect the species; however, construction activities are expected to be conducted during daylight hours to the maximum extent practicable.

Vehicle traffic, foot traffic, and presence of cross border violators can affect habitat by altering composition, structure, and function of habitat. However, the overall purpose of the Project is to reduce illegal cross-border traffic. Changes in illegal traffic patterns associated with illegal cross border violators result from a variety of factors; and therefore, are considered unpredictable and beyond the scope of this BRP.

4.4 MEXICAN SPOTTED OWL CRITICAL HABITAT

Section D-5 lies within a designated critical habitat Unit BR-W-13 for the Mexican spotted owl in the Coronado National Forest. The Project action area contains no primary constituent elements of nesting and foraging habitat for this species (CBP 2008). As stated in **Section 2.4**, three categories of PCES for Mexican spotted owl critical habitat are for structure, prey species, and canyons. The results of the May and July 2008 biological resources surveys indicate that the Project corridor lacks primary constituent elements which are necessary to ensure the conservation of the owl. Primary constituent elements related to forest structure are lacking, such as a shade canopy created by tree branches covering 40 percent or more of the ground and 28 large dead trees (snags) with a trunk diameter of at least 12 inches when measured at 4.5 feet from the ground. The Project corridor also lacks high volumes of fallen trees and other woody debris which is a primary constituent element related to the maintenance of adequate prey species. Additionally, two primary constituent elements related to canyon habitat are also lacking. These include the presence of water and Tucson Sector Tactical Infrastructure canyon walls which contain crevices, ledges, or caves. The closest Mexican spotted owl primary activity center is approximately 1 mile from the Project corridor (see **Figure 8-3 in the ESP**). Therefore, no adverse modification to Mexican spotted owl Critical Habitat is expected.

4.5 JAGUAR

The Project is likely to adversely affect the jaguar in Section D-5. Sightings have been documented west and east of the Project corridor within Coronado National Forest (Hatten et al. 2002). Additionally, the Project will permanently disturb approximately 44 acres of suitable jaguar habitat (madrean evergreen woodlands). Based on the jaguar distribution patterns in southeast Arizona, it is suspected that there are habitat corridors in Mexico that connect southeast Arizona to the northern-most established jaguar population in the Sierra Madres (Hatten et al. 2002).

Tactical infrastructure associated with the Project can impede movement of jaguars across the border. Because any jaguars in Arizona are believed to be part of a population in northern Mexico, preventing jaguar movement and exchange between the United States and Mexico will result in fragmentation of jaguar habitat.

Human activity and elevated noise levels during construction will disturb any jaguar in the immediate area and possibly hinder or impede jaguar movement into the United States. Nighttime construction could temporarily affect foraging activity; however, construction activities are expected to be conducted during daylight hours to the maximum extent practicable.

Vehicle traffic, foot traffic, and presence of cross border violators can affect habitat by altering composition, structure, and function of habitat. However, the overall purpose of the Project is to reduce illegal cross-border traffic. Changes in illegal traffic patterns result from a variety of factors; and therefore, are considered unpredictable and beyond the scope of this BRP.

4.6 LESSER LONG-NOSED BAT

The Project is not likely to adversely affect the lesser long-nosed bat in Section D-5. Potential foraging habitat exists within or near the Project corridor but no suitable roosting habitat is present (CBP 2008). The closest roost is approximately 0.9 miles north of the Project corridor. Approximately 44 acres of lesser long-nosed bat forage habitat (agave plants) will be permanently impacted by the Project. However, agave plants within the Project corridor were scattered and small, additionally most agaves occur north of the project corridor.

Nighttime construction could disturb bats in transit between roosts and forage habitat; however, these impacts will be negligible. Additionally, construction activities are expected to be conducted during daylight hours to the maximum extent practicable.

Vehicle traffic, foot traffic, and presence of cross border violators can affect habitat by altering composition, structure, and function of habitat. However, the overall purpose of the Project is to reduce illegal cross-border traffic. Changes in illegal traffic patterns associated with illegal cross border violators result from a variety of factors; and therefore, are considered unpredictable and beyond the scope of this BRP.

4.7 OCELOT

The Project is not likely to adversely affect the ocelot in Section D-5. Recent sightings of ocelots have been reported in Mexico, about 30 miles south of Section D-5 (SIA 2008). There are no known occurrences of this species within or immediately adjacent to the Project corridor (NatureServe 2008). The primary pedestrian fence associated with the Project could impede movement of ocelots across the border and could result in fragmentation of ocelot habitat. Additionally, 44 acres of potentially suitable ocelot habitat will be permanently impacted by the Project. However, because there are no known occurrences of ocelots within the Project corridor, adverse effects on the species are not likely.

Human activity and elevated noise levels during construction will disturb any ocelot in the immediate area and possibly hinder or impede ocelot movement into

the United States. Nighttime construction could temporarily affect foraging activity; however, construction activities are expected to be conducted during daylight hours to the maximum extent practicable.

Vehicle traffic, foot traffic, and presence of cross border violators can affect habitat by altering composition, structure, and function of habitat. However, the overall purpose of the Project is to reduce illegal cross-border traffic. Changes in illegal traffic patterns result from a variety of factors; and therefore, are considered unpredictable and beyond the scope of this BRP.

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5. DETERMINATION OF EFFECT

Eighteen federally listed species are known to occur or potentially occur in Santa Cruz County, Arizona. **Table 5-1** outlines federally listed species and federally designated critical habitats known to occur or to potentially occur within or adjacent to the Project area and the determination of effects resulting from the Project. Of the species listed in **Table 5-1**, the Project is likely to adversely affect the jaguar (*Panthera onca*) in Project areas associated with Section D-5. The Project may affect, but is not likely to adversely affect, Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*), Chiricahua leopard frog (*Rana chiricahuensis*), Mexican spotted owl (*Strix occidentalis lucida*), lesser long-nosed bat (*Leptonycteris curasonae*), and ocelot (*Leopardus pardalis*) in Project areas associated with Section D-5.

The remaining federally listed species will not be affected by the Project, including: the Huachuca water-umbel (*Lilaeopsis schaffneriana* ssp. *Recurva*), Canelo Hills ladies' tresses (*Spiranthes delitescens*), Stephan's riffle beetle (*Hetrelmis stephani*), Huachuca springsnail (*Pyrgulopsis thomsoni*), desert pupfish (*Cyprinodon macularius*), Gila topminnow (*Poeciliopsis occidentalis occidentalis*), Gila chub (*Gila intermedia*), Sonora chub (*Gila ditaenia*), Sonora tiger salamander (*Ambystoma tigrinum stebbinsi*), California brown pelican (*Pelecanus occidentalis californicus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and yellow-billed cuckoo (*Coccyzus americanus*). The determination of no effect on these species was based on the absence of known occurrences or suitable habitat in the Project area.

Canelo Hills ladies' tresses. Habitat for this species includes finely grained, highly organic, saturated soils of cienegas. No saturated soils are located in the Project corridor.

Stephan's riffle beetle. Habitat for this species includes free-flowing springs and seeps. No suitable habitat is present within the Project corridor.

Huachuca springsnail. Habitat for this species includes aquatic areas, small springs with vegetation and slow moderate flow. No suitable habitat is present within the Project corridor.

Desert pupfish. Habitat for this species includes shallow springs, small streams, and marshes. Native Arizona populations are located on Organ Pipe Cactus National Monument and additional refuge populations north of the Project corridor.

Gila chub. Habitat for this species includes pools, springs, cienegas, and streams. No suitable habitat is present within the Project corridor.

Table 5-1. Determination of Effects on Federally Listed and Candidate Species within Section D-5

Species	Listing Status	Determination
PLANTS		
Canelo Hills ladies'-tresses, <i>Spiranthes delitescens</i>	Endangered	No effect
Huachuca water-umbel, <i>Lilaeopsis schaffneriana</i> ssp. <i>Recurva</i>	Endangered	No effect
Pima pineapple cactus, <i>Coryphantha scheeri</i> var. <i>robustispina</i>	Endangered	Not likely to adversely affect
INVERTEBRATES		
Stephan's riffle beetle, <i>Hetrelmis stephani</i>	Candidate	No effect
Huachuca springsnail, <i>Pyrgulopsis thomsoni</i>	Candidate	No effect
FISH		
Desert pupfish, <i>Cyprinodon macularius</i>	Endangered	No effect
Gila chub, <i>Gila intermedia</i>	Endangered	No effect
Gila topminnow, <i>Poeciliopsis occidentalis occidentalis</i>	Endangered	No effect
Sonora chub, <i>Gila ditaenia</i>	Threatened	No effect
AMPHIBIANS		
Chiricahua leopard frog, <i>Rana chiricahuensis</i>	Threatened	Not likely to adversely affect
Sonora tiger salamander, <i>Ambystoma tigrinum stebbinsi</i>	Endangered	No effect
BIRDS		
California brown pelican, <i>Pelecanus occidentalis californicus</i>	Proposed delisted	No effect
Mexican spotted owl, <i>Strix occidentalis lucida</i>	Threatened, with critical habitat designated east of the Project corridor	Not likely to adversely affect
Southwestern willow flycatcher, <i>Empidonax traillii extimus</i>	Endangered	No effect
Yellow-billed cuckoo, <i>Coccyzus americanus</i>	Candidate	No effect

Species	Listing Status	Determination
MAMMALS		
Jaguar, <i>Panthera onca</i>	Endangered	Likely to adversely affect
Lesser long-nosed bat, <i>Leptonycteris curasonae</i>	Endangered	Not likely to adversely affect
Ocelot, <i>Leopardus pardalis</i>	Endangered	Not likely to adversely affect

Gila Topminnow. Habitat for this species includes small streams, springs, and cienegas vegetated shallows. No suitable habitat for this species is present within the Project corridor.

Sonora chub. Habitat for this species includes perennial and intermittent shallow to moderate streams with boulders and cliffs. No suitable habitat is present within the Project corridor.

Tiger salamander. Habitat for this species includes stock tanks and impounded cienegas in San Rafael Valley, Huachuca Mountains. No suitable habitat is present within the Project corridor.

Southwestern Willow Flycatcher. Habitat for this species is cottonwood/willow and tamarisk vegetation communities along rivers and streams. No suitable habitat is present within the Project corridor.

Yellow-billed cuckoo. Habitat for this species includes large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries). No suitable habitat is present within the Project corridor.

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USFWS 2008a	USFWS. 2008. General Species Information: Chiricahua leopard frog. Arizona Ecological Services Field Office. February 2008.
USFWS 2008b	USFWS. 2008. General Species Information: Mexican spotted owl. Arizona Ecological Services Field Office. May 2008.

APPENDIX C
Air Emission Calculations

CALCULATION SHEET-COMBUSTABLE EMISSIONS-SANTA CRUZ COUNTY

Assumptions for Combustable Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Water Truck	2	300	12	90	648000
Diesel Road Compactors	2	100	12	90	216000
Diesel Dump Truck	2	300	12	90	648000
Diesel Excavator	2	300	12	90	648000
Diesel Hole Trenchers	2	175	12	90	378000
Diesel Bore/Drill Rigs	2	300	12	90	648000
Diesel Cement & Mortar Mixers	2	300	12	90	648000
Diesel Cranes	2	175	12	90	378000
Diesel Graders	2	300	12	90	648000
Diesel Tractors/Loaders/Backhoes	3	100	12	90	324000
Diesel Bull Dozers	2	300	12	90	648000
Diesel Front End Loaders	2	300	12	90	648000
Diesel Fork Lifts	2	100	12	90	216000
Diesel Generator Set	12	40	12	90	518400

Emission Factors						
Type of Construction Equipment	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM-10 g/hp-hr	PM-2.5 g/hp-hr	SO2 g/hp-hr
Water Truck	0.440	2.070	5.490	0.410	0.400	0.740
Diesel Road Compactors	0.370	1.480	4.900	0.340	0.330	0.740
Diesel Dump Truck	0.440	2.070	5.490	0.410	0.400	0.740
Diesel Excavator	0.340	1.300	4.600	0.320	0.310	0.740
Diesel Trenchers	0.510	2.440	5.810	0.460	0.440	0.740
Diesel Bore/Drill Rigs	0.600	2.290	7.150	0.500	0.490	0.730
Diesel Cement & Mortar Mixers	0.610	2.320	7.280	0.480	0.470	0.730
Diesel Cranes	0.440	1.300	5.720	0.340	0.330	0.730
Diesel Graders	0.350	1.360	4.730	0.330	0.320	0.740
Diesel Tractors/Loaders/Backhoes	1.850	8.210	7.220	1.370	1.330	0.950
Diesel Bull Dozers	0.360	1.380	4.760	0.330	0.320	0.740
Diesel Front End Loaders	0.380	1.550	5.000	0.350	0.340	0.740
Diesel Fork Lifts	1.980	7.760	8.560	1.390	1.350	0.950
Diesel Generator Set	1.210	3.760	5.970	0.730	0.710	0.810

CALCULATION SHEET-COMBUSTABLE EMISSIONS-SANTA CRUZ COUNTY

Emissions factors (EF) were generated from the NONROAD2005 model for the 2006 calendar year. The VOC EFs include exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2005 model are diesel, hotsoak, running loss, tank permeation, hose permeation, and spillage. The construction equipment age distribution in the NONROAD2005 model is based on the population in U.S. for the 2006 calendar year.

Emission Calculations								
Type of Construction Equipment	VOC tons/yr	CO tons/yr	NOx tons/yr	PM-10 tons/yr	PM-2.5 tons/yr	SO ₂ tons/yr	CO ₂ tons/yr	
Water Truck	0.314	1.478	3.920	0.293	0.286	0.528	382.755	
Diesel Road Paver	0.088	0.352	1.166	0.081	0.079	0.176	127.633	
Diesel Dump Truck	0.314	1.478	3.920	0.293	0.286	0.528	382.755	
Diesel Excavator	0.243	0.928	3.285	0.229	0.221	0.528	382.970	
Diesel Hole Cleaners/Trenchers	0.212	1.016	2.420	0.192	0.183	0.308	223.191	
Diesel Bore/Drill Rigs	0.428	1.635	5.106	0.357	0.350	0.521	378.257	
Diesel Cement & Mortar Mixers	0.436	1.657	5.199	0.343	0.336	0.521	378.257	
Diesel Cranes	0.183	0.542	2.383	0.142	0.137	0.304	220.858	
Diesel Graders	0.250	0.971	3.378	0.236	0.229	0.528	382.970	
Diesel Tractors/Loaders/Backhoes	0.661	2.931	2.578	0.489	0.475	0.339	246.756	
Diesel Bull Dozers	0.257	0.985	3.399	0.236	0.229	0.528	382.970	
Diesel Front End Loaders	0.271	1.107	3.570	0.250	0.243	0.528	382.898	
Diesel Aerial Lifts	0.471	1.847	2.038	0.331	0.321	0.226	164.433	
Diesel Generator Set	0.691	2.148	3.411	0.417	0.406	0.463	335.511	
Total Emissions	4.821	19.077	45.772	3.886	3.779	6.030	4372.212	

Conversion factors	
Grams to tons	1.102E-06

CALCULATION SHEET-TRANSPORTATION COMBUSTABLE EMISSIONS-SANTA CRUZ COUNTY

Construction Worker Personal Vehicle Commuting to Construction Sight-Passenger and Light Duty Trucks									
Pollutants	Emission Factors			Assumptions			Results by Pollutant		
	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	120	90	30	30	0.49	0.57	1.06
CO	12.4	15.7	120	90	30	30	4.43	5.61	10.03
NOx	0.95	1.22	120	90	30	30	0.34	0.44	0.77
PM-10	0.0052	0.0065	120	90	30	30	0.00	0.00	0.00
PM 2.5	0.0049	0.006	120	90	30	30	0.00	0.00	0.00

Heavy Duty Trucks Delivery Supply Trucks to Construction Sight									
Pollutants	Emission Factors			Assumptions			Results by Pollutant		
	10,000-19,500 lb Delivery Truck	33,000-60,000 lb semi trailer rig	Mile/day	Day/yr	Number of trucks	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	0.29	0.55	60	90	2	2	0.00	0.01	0.01
CO	1.32	3.21	60	90	2	2	0.02	0.04	0.05
NOx	4.97	12.6	60	90	2	2	0.06	0.15	0.21
PM-10	0.12	0.33	60	90	2	2	0.00	0.00	0.01
PM 2.5	0.13	0.36	60	90	2	2	0.00	0.00	0.01

Bi-monthly OBP Commute for Inspection									
Pollutants	Emission Factors			Assumptions			Results by Pollutant		
	10,000-19,500 lb Delivery Truck	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of Towers in County	Number of trucks	Total Emissions Delivery Trk tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	0.29	1.61	120	0	0	0	-	0.00	-
CO	1.32	15.7	120	0	0	0	-	0.00	-
NOx	4.97	1.22	120	0	0	0	-	0.00	-
PM-10	0.12	0.0065	120	0	0	0	-	0.00	-
PM 2.5	0.13	0.006	120	0	0	0	-	0.00	-

Truck Emission Factor Source: USEPA 2005 Emission Facts: Average annual emissions and fuel consumption for gasoline-fueled passenger cars and light trucks. EPA 420-F-05-022 August 2005. Emission rates were generated using MOBILE.6 highway vehicle emission factor model.

CALCULAT ON SHEET-FUG T VE DUST- SANTA CRUZ COUNTY

Construction Fugitive Dust Emissions

Construction Fugitive Dust Emission Factors

	Emission Factor	Units	Source
General Construction Activities	0.19 ton PM10/acre-month	MR	1996 EPA 2001 EPA 2006
New Road Construction	0.42 ton PM10/acre-month	MR	1996 EPA 2001 EPA 2006

PM2.5 Emissions

PM2.5 Multiplier	0.10	(10% of PM10 emissions assumed to be PM2.5)	EPA 2001 EPA 2006
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Control Efficiency

	0.50	(assume 50% control efficiency for PM10 and PM2.5 emissions)	EPA 2001 EPA 2006
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Project Assumptions

	Conversion Factors		
	0.000022957	acres per foot	
	5280	feet per mile	
Pedestrian Fence (0.19 ton PM10/acre-month)			
Duration of Construction Project	3 months		
Length	4 miles		
Length (converted)	21120 feet		
Width	60 feet		
Area	29.09 acres		
Road Maintenance (0.19 ton PM10/acre-month)			
Duration of Construction Project	3 months		
Length	15.83 miles		
Length (converted)	83582 feet		
Width	28 feet		
Area	53.73 acres		
Staging Areas (0.19 ton PM10/acre-month)			
Duration of Construction Project	3 months		
Length	3 miles		
Length (converted)	1584 feet		
Width	211 feet		
Area	2.11 acres		
New Road Construction (0.42 ton PM10/acre-month)			
Duration of Construction Project	3 months		
Length	4 miles		
Length (converted)	21120 feet		
Width	28 feet		
Area	13.58 acres		

	Project Emissions (tons/year)			
	PM10 uncontrolled	PM10 controlled	PM2.5 uncontrolled	PM2.5 controlled
Pedestrian Fence (0.19 ton PM10/acre-month)	16.58	8.29	1.66	0.83
Access Roads	30.62	15.31	3.06	1.53
New Road Construction	17.11	8.55	1.71	0.86
Staging Areas (0.19 ton PM10/acre-month)	1.20	0.60	0.12	0.06
Total	65.51	32.76	6.55	3.28

References:

- EPA 2001 Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999. EPA-454/R-01-006 Office of Air Quality Planning and Standards United States Environmental Protection Agency March 2001
- EPA 2006 Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants. Prepared for Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards United States Environmental Protection Agency July 2006
- MR 1996 Improvement of Specific Emission Factors (BACM Project No. 1). Midwest Research Institute (MR) Prepared for the California South Coast Air Quality Management District March 29 1996

VF 300 Fugitive Dust Emissions Model

General Construction Activities Emission Factors

0.19 ton PM10/acre-month Source MR 1996 EPA 2001 EPA 2006

The area-based emission factor for construction activities is based on a study completed by the Midwest Research Institute (MR) improvement of Specific Emission Factors (BACM Project No 1) March 29 1996 The MR study evaluated seven construction projects in Nevada and California (Las Vegas Coachella Valley South Coast Air Basin and the San Joaquin Valley) The study determined an average emission factor of 0.11 ton PM10/acre-month for sites without large-scale cut/fill operations A worst-case emission factor of 0.42 ton PM10/acre-month was calculated for sites with active large-scale earth moving operations The monthly emission factors are based on 168 work-hours per month (MR 1996) A subsequent MR Report in 1999 Estimating Particulate Matter Emissions From Construction Operations calculated the 0.19 ton PM10/acre-month emission factor by applying 25% of the large-scale earthmoving emission factor (0.42 ton PM10/acre-month) and 75% of the average emission factor (0.11 ton PM10/acre-month) The 0.19 ton PM10/acre-month emission factor is referenced by the EPA for non-residential construction activities in recent procedures documents for the National Emission Inventory (EPA 2001 EPA 2006)

The 0.19 ton PM10/acre-month emission factor represents a refinement of EPA's original AP-42 area-based total suspended solids (TSP) emission factor in Section 13.2.3 Heavy Construction Operations in addition to the EPA this methodology is also supported by the South Coast Air Quality Management District and the Western Regional Air Partnership (WRAP) which is funded by the EPA and is administered jointly by the Western Governor's Association and the National Tribal Environmental Council The emission factor is assumed to encompass a variety of non-residential construction activities including building construction (commercial industrial institutional governmental) public works and travel on unpaved roads The EPA National Emission Inventory documentation assumes that the emission factors are uncontrolled and recommends a control efficiency of 50% for PM10 and PM2.5 in PM nonattainment areas

New Road Construction Emission Factor

0.42 ton PM10/acre-month Source MR 1996 EPA 2001 EPA 2006

The emission factor for new road construction is based on the worst-case conditions emission factor from the MR 1996 study described above (0.42 tons PM10/acre-month) It is assumed that road construction involves extensive earthmoving and heavy construction vehicle travel resulting in emissions that are higher than other general construction projects The 0.42 ton PM10/acre-month emission factor for road construction is referenced in recent procedures documents for the EPA National Emission Inventory (EPA 2001 EPA 2006)

PM2.5 Multiplier

0.10

PM2.5 emissions are estimated by applying a particle size multiplier of 0.10 to PM10 emissions This methodology is consistent with the procedures documents for the National Emission Inventory (EPA 2006)

Control Efficiency for PM10 and PM2.5

0.50

The EPA National Emission Inventory documentation recommends a control efficiency of 50% for PM10 and PM2.5 in PM nonattainment areas Wetting controls will be applied during project construction

References:

EPA 2001 *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999* EPA-454/R-01-006 Office of Air Quality Planning and Standards United States Environmental Protection Agency March 2001
EPA 2006 *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants* Prepared for Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards United States Environmental Protection Agency July 2006
MR 1996 *Improvement of Specific Emission Factors (BACM Project No. 1)* Midwest Research Institute (MR) Prepared for the California South Coast Air Quality Management District March 29 1996

CALCULATION SHEET-SUMMARY OF EMISSIONS-SANTA CRUZ COUNTY

Proposed Action Construction Emissions for Criteria Pollutants (tons per year)						
Emissions source	VOC	CO	NOx	PM-10	PM-2.5	SO ₂
Combustion Emissions	4.82	19.08	45.77	3.89	3.78	6.03
Construction Site-fugitive PM-10	NA	NA	NA	32.76	6.55	NA
Construction Workers Commuter & Trucking	1.07	10.09	0.98	0.01	0.01	NA
Total emissions	5.89	29.16	46.76	36.65	10.34	6.03
Minimum threshold	NA	NA	NA	100.00	NA	NA

APPENDIX D
Arizona Natural Heritage Program (ANHP) List

COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	ESA	BLM	USFS	NESL	MEXFED	STATE	ELCODE	S RANK	G RANK
Pinal	PLANT	Thelypteris puberula var sonorensis	Aravaipa Wood Fern		S					PPTHE05192	S2	G5T3
Pinal	PLANT	Tripsacum lanceolatum	Mexican Gama Grass							PMPOA68030	S2S3	G4
Pinal	PLANT	Tumamoca macdougalii	Tumamoc Globeberry		S	S		SR		PDCUC0S010	S3	G4
Pinal	REPTILE	Aspidoscelis burti stictogrammus	Giant Spotted Whiptail	SC	S	S				ARACJ02011	S2	G4T4
Pinal	REPTILE	Aspidoscelis xanthonota	Redback Whiptail	SC		S				ARACJ02012	S2	G4T2
Pinal	REPTILE	Chionactis occipitalis klauberi	Tucson Shovel-nosed Snake		S					ARADB05012	S1	G5T3Q
Pinal	REPTILE	Gopherus agassizii (Sonoran Population)	Sonoran Desert Tortoise	SC			A	WSC		ARAAF01013	S4	G4T4
Pinal	REPTILE	Heloderma suspectum suspectum	Reticulate Gila Monster				A			ARACE01012	S4	G4T4
Pinal	REPTILE	Lampropeltis gestula nigrita	Western Black Kingsnake			S	A			ARADB19026	S3	G5T3T4Q
Pinal	REPTILE	Phrynosoma hernandesi	Greater Short-horned Lizard							ARACF12080	S4	G5
Pinal	REPTILE	Phyllorhynchus browni	Saddled Leaf-nosed Snake				PR			ARADB25010	S5	G5
Pinal	REPTILE	Terrapene ornata luteola	Desert Box Turtle				PR			ARAAD08021	S2S3	G5T4
Pinal	REPTILE	Thamnophis eques megalops	Northern Mexican Gartersnake	SC		S	A	WSC		ARADB36061	S1	G5T5
Pinal	REPTILE	Xantusia bezyi	Bezy's Night Lizard							ARACK01060	S2	G1G3
Santa Cruz	AMPHIBIAN	Ambystoma tigrinum stebbinsi	Sonora Tiger Salamander	LE			PR	WSC		AAAAA01145	S1	G5T1T2
Santa Cruz	AMPHIBIAN	Eleutherodactylus augusti cactorum	Western Barking Frog			S		WSC		AAABD04171	S2	G5T5
Santa Cruz	AMPHIBIAN	Gastrophryne olivacea	Great Plains Narrow-mouthed Toad				PR	WSC		AAABE01020	S3	G5
Santa Cruz	AMPHIBIAN	Hyla wrightorum (Huachuclas/Canelo Hills Treefrog Hills Pop)	C							AAABC02082	S1	G4T1
Santa Cruz	AMPHIBIAN	Rana chiricahuensis	Chiricahua Leopard Frog	LT		S	A	WSC		AAABH01080	S2	G3
Santa Cruz	AMPHIBIAN	Rana tarahumarae	Tarahumara Frog	SC				WSC		AAABH01210	SXS1	G3
Santa Cruz	AMPHIBIAN	Rana yavapaiensis	Lowland Leopard Frog	SC		S	PR	WSC		AAABH01250	S3	G4
Santa Cruz	BIRD	Accipiter gentilis	Northern Goshawk	SC		S	4	A	WSC	ABNKC12060	S3	G5
Santa Cruz	BIRD	Aimophila quinquestriata	Five-striped Sparrow							ABPBX97030	S1S2	G4
Santa Cruz	BIRD	Amazilia beryllina	Berylline Hummingbird							ABNUC29080	S1	G4
Santa Cruz	BIRD	Amazilia violiceps	Violet-crowned Hummingbird					WSC		ABNUC29150	S3	G5
Santa Cruz	BIRD	Ammodramus bairdii	Baird's Sparrow	SC				WSC		ABPBXA0010	S2N	G4
Santa Cruz	BIRD	Anthus spragueii	Sprague's Pipit					WSC		ABPBM02060	S2N	G4

COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	ESA	BLM	USFS	NESL	MEXFED	STATE	ELCODE	S RANK	G RANK
Santa Cruz	BIRD	Aquila chrysaetos	Golden Eagle			3		P		ABNKC22010	S4	G5
Santa Cruz	BIRD	Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	4		A		ABNSB10012	S3	G4T4
Santa Cruz	BIRD	Buteo albonotatus	Zone-tailed Hawk							ABNKC19090	S4	G4
Santa Cruz	BIRD	Buteo nitidus maxima	Northern Gray Hawk	SC		S		PR	WSC	ABNKC19011	S3	G5T4Q
Santa Cruz	BIRD	Buteogallus anthracinus	Common Black-Hawk			S		A	WSC	ABNKC15010	S3	G4G5
Santa Cruz	BIRD	Calothorax lucifer	Lucifer Hummingbird							ABNUC44010	S2	G4G5
Santa Cruz	BIRD	Campostoma imberbe	Northern Beardless-Tyrannulet							ABPAE04010	S4	G5
Santa Cruz	BIRD	Caprimulgus ridgwayi	Buff-collared Nightjar							ABNTA07060	S2S3	G5
Santa Cruz	BIRD	Catharus ustulatus	Swainson's Thrush							ABPB118100	S1	G5
Santa Cruz	BIRD	Chloroceryle americana	Green Kingfisher							ABNXD02020	S2	G5
Santa Cruz	BIRD	Coccyzus americanus occidentalis	Western Yellow-billed Cuckoo	C		S	2		WSC	ABNRB02022	S3	G5T3Q
Santa Cruz	BIRD	Dendrocygna autumnalis	Black-bellied Whistling-Duck						WSC	ABNJB01040	S3	G5
Santa Cruz	BIRD	Empidonax traillii extimus	Southwestern Willow Flycatcher	LE		S	2		WSC	ABPAE33043	S1	G5T1T2
Santa Cruz	BIRD	Falco peregrinus anatum	American Peregrine Falcon	SC		S	4	A	WSC	ABNKD06071	S4	G4T4
Santa Cruz	BIRD	Glaucidium brasilianum cactorum	Cactus Ferruginous Pygmy-owl	SC				A	WSC	ABNSB08041	S1	G5T3
Santa Cruz	BIRD	Haliaeetus leucocephalus (wintering pop)	Bald Eagle	SC		S		P	WSC	ABNKC10012	S4N	G5
Santa Cruz	BIRD	Icterus bullockii	Bullock's Oriole							ABPBXB9220	S?	G5
Santa Cruz	BIRD	Lampornis clemenciae	Blue-throated Hummingbird							ABNUC34040	S4	G5
Santa Cruz	BIRD	Pachyramphus aglaiae	Rose-throated Becard						WSC	ABPAE53070	S1	G4G5
Santa Cruz	BIRD	Pandion haliaetus	Osprey						WSC	ABNKC01010	S2B,S4N	G5
Santa Cruz	BIRD	Polioptila nigriceps	Black-capped Gnatcatcher						WSC	ABPB108040	S1	G5
Santa Cruz	BIRD	Sialia sialis fulva	Azure Bluebird							ABPB115012	S3	G5TU
Santa Cruz	BIRD	Strix occidentalis lucida	Mexican Spotted Owl	LT		S	3	A	WSC	ABNSB12012	S3S4	G3T3
Santa Cruz	BIRD	Tachybaptus dominicus	Least Grebe							ABNCA01010	SAB	G5
Santa Cruz	BIRD	Trogon elegans	Elegant Trogon						WSC	ABNWA02070	S3	G5
Santa Cruz	BIRD	Tyrannus crassirostris	Thick-billed Kingbird						WSC	ABPAE52040	S2	G5
Santa Cruz	BIRD	Tyrannus melancholicus	Tropical Kingbird						WSC	ABPAE52010	S3	G5

COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	ESA	BLM	USFS	NESL	MEXFED	STATE	ELCODE	S RANK	G RANK
Santa Cruz	FISH	Agosia chrysogaster chrysogaster	Gila Longfin Dace	SC	S			A		AFCJB37151	S3S4	G4T3T4
Santa Cruz	FISH	Catostomus clarki	Desert Sucker	SC	S					AFCJC02040	S3S4	G3G4
Santa Cruz	FISH	Catostomus insignis	Sonora Sucker	SC	S			P		AFCJC02100	S3	G3
Santa Cruz	FISH	Cyprinodon macularius	Desert Pupfish	LE				P	WSC	AFCNB02060	S1	G1
Santa Cruz	FISH	Gila ditaenia	Sonora Chub	LT				A	WSC	AFCJB13090	S1	G2
Santa Cruz	FISH	Gila intermedia	Gila Chub	LE				P	WSC	AFCJB13160	S2	G2
Santa Cruz	FISH	Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE				A	WSC	AFCNC05021	S1S2	G3T3
Santa Cruz	FISH	Rhinichthys osculus	Speckled Dace	SC	S			P		AFCJB37050	S3S4	G5
Santa Cruz	INVERTEBRATE	Agathymus arynxa	Arizona Giant Skipper			S				IILEP87080	S?	G4G5
Santa Cruz	INVERTEBRATE	Amblyscirtes aenus	Bronze Roadside Skipper							IILEP80040	S?	G5
Santa Cruz	INVERTEBRATE	Amblyscirtes elissa	Elissa Roadside-skipper							IILEP80240	S?	G3G4
Santa Cruz	INVERTEBRATE	Amblyscirtes nysa	Nysa Roadside Skipper							IILEP80160	S?	G5
Santa Cruz	INVERTEBRATE	Amblyscirtes oslari	Oslar's Roadside Skipper							IILEP80060	S?	G4
Santa Cruz	INVERTEBRATE	Argia sabino	Sabino Canyon Damselfly	SC		S				IIODO68100	S?	G1G2
Santa Cruz	INVERTEBRATE	Calephelis rawsoni arizonensis	Arizona Metalmark			S				IILEPH2073	S2	G3G4
Santa Cruz	INVERTEBRATE	Heterelmis stephani	Stephan's Heterelmis Riffle Beetle	C		S				IICOL5B010	S1	G1
Santa Cruz	INVERTEBRATE	Limenitis archippus obsoleta	Obsolete Viceroy Butterfly			S				IILEPL3024	S?	G5T3T4
Santa Cruz	INVERTEBRATE	Neophasia terlooii	Chiricahua Pine White			S				IILEP99020	S2?	G3G4
Santa Cruz	INVERTEBRATE	Pyrgulopsis thompsoni	Huachuca Springsnail	C	S					IMGASJ0230	S2	G2
Santa Cruz	INVERTEBRATE	Stygobromus arizonensis	Arizona Cave Amphipod	SC		S				ICMAL05360	S1?	G2G3
Santa Cruz	INVERTEBRATE	Sympetrum signiferum	Mexican Meadowfly			S				IIODO61150	S?	G2G3
Santa Cruz	INVERTEBRATE	Thorybes pylades	Northern Cloudy Wing							IILEP16020	S?	G5
Santa Cruz	INVERTEBRATE	Tuberochernes ubicki	A Cave Obligate Pseudoscorpion							ILARAD3020	S?	G1G2
Santa Cruz	MAMMAL	Antrozous pallidus	Pallid Bat							AMACC10010	S4	G5
Santa Cruz	MAMMAL	Baiomys taylori	Northern Pygmy Mouse							AMAFF05010	S3	G4G5
Santa Cruz	MAMMAL	Bat Colony								OBATCOLONY	SU	GNR
Santa Cruz	MAMMAL	Bat Foraging Area	High Netting Concentration							OBATFORAGI	SU	GNR

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Santa Cruz	MAMMAL	Choeronycteris mexicana	Mexican Long-tongued Bat	SC				A	WSC	AMACB02010	S3	G4
Santa Cruz	MAMMAL	Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC		4				AMACC08014	S3S4	G4T4
Santa Cruz	MAMMAL	Didelphis virginiana californica	Mexican Opossum							AMAAA01011	S3	G5TNR
Santa Cruz	MAMMAL	Lasiurus blossevillii	Western Red Bat						WSC	AMACC05060	S3	G5
Santa Cruz	MAMMAL	Lasiurus cinereus	Hoary Bat	No Status						AMACC05030	S4	G5
Santa Cruz	MAMMAL	Leptonycteris curasoae yerbabuena	Lesser Long-nosed Bat	LE		S			WSC	AMACB03030	S2S3	G4
Santa Cruz	MAMMAL	Macrotus californicus	California Leaf-nosed Bat	SC					WSC	AMACB01010	S3	G4
Santa Cruz	MAMMAL	Mormoops megalophylla	Ghost-faced Bat							AMACA01010	SA	G4
Santa Cruz	MAMMAL	Myotis velifer	Cave Myotis	SC	S					AMACC01050	S3S4	G5
Santa Cruz	MAMMAL	Panthera onca	Jaguar	LE		S		P	WSC	AMAJH02010	S1	G3
Santa Cruz	MAMMAL	Reithrodontomys fulvescens	Fulvous Harvest Mouse							AMAFF02050	S4	G5
Santa Cruz	MAMMAL	Reithrodontomys montanus	Plains Harvest Mouse							AMAFF02010	S3	G5
Santa Cruz	MAMMAL	Sciurus arizonensis	Arizona Gray Squirrel					A		AMAFB07060	S4	G4
Santa Cruz	MAMMAL	Sigmodon ochrognathus	Yellow-nosed Cotton Rat	SC						AMAFF07040	S4	G4G5
Santa Cruz	MAMMAL	Sorex arizonae	Arizona Shrew	SC		S		P	WSC	AMABA01240	S2	G3
Santa Cruz	MAMMAL	Tadarida brasiliensis	Brazilian Free-tailed Bat							AMACD01010	S3S4	G5
Santa Cruz	MAMMAL	Thomomys bottae	Botta's Pocket Gopher							AMAF01020	S5	G5
Santa Cruz	MAMMAL	Thomomys umbrinus intermedius	Southern Pocket Gopher			S				AMAF01012	S3	G5T3
Santa Cruz	PLANT	Abutilon parishii	Pima Indian Mallow	SC	S	S			SR	PDMAL020E0	S2	G2
Santa Cruz	PLANT	Abutilon reventum	Yellow Indian Mallow							PDMAL02000	S2	G3G5
Santa Cruz	PLANT	Acacia farnesiana	Sweet Acacia			S				PDFAB020D0	S1S2	G5
Santa Cruz	PLANT	Aeschynomene villosa	Sensitive Joint Vetch							PDFAB04070	S2?	G4
Santa Cruz	PLANT	Agastache pallida	Barber Giant Hyssop							PDLAM03090	S1?	G4?
Santa Cruz	PLANT	Agastache rupestris	Baboquivari Giant Hyssop							PDLAM030D0	S2	G3?
Santa Cruz	PLANT	Agave parviflora ssp. parviflora	Santa Cruz Striped Agave	SC		S		A	HS	PMAGA010L2	S3	G3T3
Santa Cruz	PLANT	Allium rhizomatum	Redflower Onion			S			SR	PMLIL02320	S1	G3?Q
Santa Cruz	PLANT	Aloysia gratissima	Common Bee Brush							PDVER02010	S3	G5

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Santa Cruz	PLANT	Amoreuxia gonzalezii	Saiya	SC		S			HS	PDBIX01010	S1	G1
Santa Cruz	PLANT	Amsonia grandiflora	Large-flowered Blue Star	SC		S				PDAP003060	S2	G2
Santa Cruz	PLANT	Anoda abutiloides	False Indian Mallow							PDMAL07010	S2	G3
Santa Cruz	PLANT	Arabis tricornuta	Chiricahua Rock Cress			S				PDBRA06200	S1?	G1?
Santa Cruz	PLANT	Argyrochosma incana	Hoary Cloak Fern							PPADI0N030	S2	G5
Santa Cruz	PLANT	Asclepias incarnata ssp incarnata	Purple Milkweed							PDASC020U1	S1	G5T5
Santa Cruz	PLANT	Asclepias lemmonii	Lemmon Milkweed			S				PDASC020Z0	S2	G4?
Santa Cruz	PLANT	Asclepias uncialis	Greene Milkweed	SC		S				PDASC02220	S1?	G3G4
Santa Cruz	PLANT	Asplenium exiguum	Sonoran Spleenwort							PPASP020D0	S1	GU
Santa Cruz	PLANT	Aster pauciflorus	Marsh Alkali Aster							PDASTEL010	S1	G4
Santa Cruz	PLANT	Aster potosinus	Lemmon's Aster							PDASTE8160	S1	G2
Santa Cruz	PLANT	Astragalus hypoxylus	Huachuca Milk-vetch	SC	S	S		SR		PDFAB0F470	S1	G1
Santa Cruz	PLANT	Ayenia truncata								PDSTE010C0	S1	GNR
Santa Cruz	PLANT	Bouchea prismatica	Prism Bouchea							PDVER04020	S4	G4G5
Santa Cruz	PLANT	Browallia eludens	Elusive New Browallia Species	SC		S				PDSOL03030	S1	G2?
Santa Cruz	PLANT	Capsicum annuum var glabriusculum	Chiltepin			S				PDSOL06012	S2	G5T5
Santa Cruz	PLANT	Carex chihuahuensis	A Sedge			S				PMCYP032T0	S2S3	G3G4
Santa Cruz	PLANT	Carex ultra	Arizona Giant Sedge		S	S				PMCYP03E50	S2	G3?
Santa Cruz	PLANT	Centaurea rothrockii	Knap Thistle							PDASTIY0P0	S3	G4
Santa Cruz	PLANT	Choisya mollis	Santa Cruz Star Leaf	SC		S				PDRUT02022	S2	G5?T2?
Santa Cruz	PLANT	Conioselinum mexicanum	Mexican Hemlock Parsley	SC		S				PDAP10P030	S1	G2?
Santa Cruz	PLANT	Corchorus hirtus	Orinico Jute							PDTIL01030	S1	G5
Santa Cruz	PLANT	Coryphantha recurvata	Santa Cruz Beehive Cactus			S			HS	PDCAC04090	S3	G3
Santa Cruz	PLANT	Coryphantha scheeri var robustispina	Pima Pineapple Cactus	LE					HS	PDCAC040C1	S2	G4T2
Santa Cruz	PLANT	Coursetia glabella		SC		S				PDFAB140B0	S1	G3?
Santa Cruz	PLANT	Croton ciliatoglandulifer	Tropical Glandular Croton							PDEUP0H070	S1	G5
Santa Cruz	PLANT	Cynanchum ligulatum	Sinaloa Milkweed Vine							PDASC050V0	S1	G4

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Santa Cruz	PLANT	Dalea lumbholtzii	Lumholtz's Prairie-clover							PDFABIA0Y0	S2S3	GNR
Santa Cruz	PLANT	Dalea tentaculoides	Gentry Indigo Bush	SC	S	S			HS	PDFABIA1K0	S1	G1
Santa Cruz	PLANT	Desmanthus bicornutus	Ruby Bundleflower							PDFABIC0A0	S1	G4
Santa Cruz	PLANT	Dichondra repens var sericea	Silky Pony Foot							PDCON08090	S1	G5
Santa Cruz	PLANT	Erigeron arisolius				S				PDAST3M510	S2	G2
Santa Cruz	PLANT	Erigeron arizonicus	Arizona Fleabane							PDAST3M0B0	S3	G3?
Santa Cruz	PLANT	Erigeron pringlei	Pringle's Fleabane							PDAST3M3C0	S2	G2
Santa Cruz	PLANT	Erigeron sceptrifer	Scepterbearing Fleabane							PDAST3M520	S1	GNR
Santa Cruz	PLANT	Euphorbia macropus	Woodland Spurge	SC				SR		PDEUP0Q2U0	S2	G4
Santa Cruz	PLANT	Fraxinus gooddingii	Goodding Ash							PD0LE04080	S3	G3
Santa Cruz	PLANT	Gentianopsis macrantha	Mexican Fringed Gentian							PDGEN08060	S1S2	G4
Santa Cruz	PLANT	Gonolobus arizonicus	Rincon Milkweed Vine							PDASC0A020	S4	G4
Santa Cruz	PLANT	Graptopetalum bartramii	Bartram Stonecrop	SC	S	S		SR		PDCRA06010	S3	G3
Santa Cruz	PLANT	Gutierrezia wrightii	Wright's Snakeweed							PDAST4B0C0	S2S3	G4?
Santa Cruz	PLANT	Hedeoma dentatum	Mock-pennyroyal			S				PDLAM0M0M0	S3	G3
Santa Cruz	PLANT	Henrya insularis	Henrya							PDACA0R010	S1	G5
Santa Cruz	PLANT	Heteranthera limosa	Mud Plantain							PMPON03030	S1	G5
Santa Cruz	PLANT	Heterotheca rutteri	Huachuca Golden Aster	SC	S	S			SR	PDAST4V0J0	S2	G2
Santa Cruz	PLANT	Hexalectris revoluta	Chisos Coral-root		S					PMORC1C030	S1	G1G2
Santa Cruz	PLANT	Hexalectris spicata	Crested Coral Root					SR		PMORC1C040	S3S4	G5
Santa Cruz	PLANT	Hieracium pringlei	Pringle Hawkweed	SC		S				PDAST4W170	S1	G2Q
Santa Cruz	PLANT	Ipomoea plummerae var cuneifolia	Huachuca Morning Glory			S				PDCON0A14I	S3	G4T3
Santa Cruz	PLANT	Ipomoea tenuiloba	Trumpet Morning-glory							PDCON0A1H0	S4	G4
Santa Cruz	PLANT	Ipomoea thurberi	Thurber's Morning-glory			S				PDCON0A1K0	S1	G3
Santa Cruz	PLANT	Laemecia eriophylla	Woolly Fleabane			S				PDASTDL020	S2	G3
Santa Cruz	PLANT	Lagascea decipiens	Beguiling Mexican Daisy							PDAST5G010	S4	G5
Santa Cruz	PLANT	Leibnitzia lyrata	Woodland Sunbonnets							PDASTDM010	S4	G5

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Santa Cruz	PLANT	Lilaeopsis schaffneriana var recurva	Huachuca Water Umbel	LE					HS	PDAP119051	S2	G4T2
Santa Cruz	PLANT	Lilium parryi	Lemmon Lily	SC		S			SR	PMLJL1A010	S2	G3
Santa Cruz	PLANT	Lobelia fenestralis	Leafy Lobelia						SR	PDCAM0E0H0	S1	G4
Santa Cruz	PLANT	Lobelia laxiflora	Mexican Lobelia						SR	PDCAM0E0X0	S1	G4
Santa Cruz	PLANT	Loeselia glandulosa	Tropical Spiny Phlox							PDPLM0A010	S2	G4
Santa Cruz	PLANT	Lotus alamosanus	Alamos Deer Vetch			S				PDFAB2A020	S1	G3G4
Santa Cruz	PLANT	Ludwigia palustris	Marsh Purslane							PDONA0B0H0	S1	G5
Santa Cruz	PLANT	Lupinus huachucanus	Huachuca Mountain Lupine			S				PDFAB2B210	S2	G2
Santa Cruz	PLANT	Macropitilium supinum	Supine Bean	SC		S			SR	PDFAB330L0	S1	G2
Santa Cruz	PLANT	Malaxis corymbosa	Madrean Adders Mouth						SR	PMORC1R020	S3S4	G4
Santa Cruz	PLANT	Malaxis porphyrea	Purple Adder's Mouth						SR	PMORC1R0Q0	S2	G4
Santa Cruz	PLANT	Malvastrum bicuspidatum	Mexican Shrub Mallow							PDMAL0S030	S2	G4
Santa Cruz	PLANT	Mammillaria wrightii var wilcoxii	Wilcox Fishhook Cactus						SR	PDCAC0A0E1	S4	G4T4
Santa Cruz	PLANT	Manihot davisiae	Arizona Manihot			S				PDEUP0Z010	S2	G4
Santa Cruz	PLANT	Marina diffusa	Escoba			S				PDFAB2F020	S1	G5?
Santa Cruz	PLANT	Metastelma mexicanum	Wiggins Milkweed Vine	SC		S				PDASC050P0	S1S2	G3G4
Santa Cruz	PLANT	Microchloa kunthii	Kunth Grass							PMPOA40010	S1	G5
Santa Cruz	PLANT	Muhlenbergia dubioides	Box Canyon Muhly			S				PMPOA480G0	S1	G1Q
Santa Cruz	PLANT	Muhlenbergia xerophila	Weeping Muhly			S				PMPOA48220	S1	G3
Santa Cruz	PLANT	Nemastylis tenuis	Slender Shell Flower							PMIRI0B040	S1	G5
Santa Cruz	PLANT	Notholaena lemmonii	Lemmon Cloak Fern	SC						PPADI0G0D0	S1S2	G3?
Santa Cruz	PLANT	Ophioglossum engelmannii	Engelmann Adders Tongue							PPOPH02040	S1	G5
Santa Cruz	PLANT	Opuntia versicolor	Stag-horn Cholla						SR	PDCAC0D1K0	S2S3	G4
Santa Cruz	PLANT	Paspalum virletii	Virlet Paspalum			S				PMPOA4P1L0	S1	G3?
Santa Cruz	PLANT	Passiflora arizonica	Arizona Passionflower			S				PDPAS01073	S2	G5T3T5
Santa Cruz	PLANT	Passiflora bryonioides	Mossy Passionflower							PDPAS01040	S1	G3G5
Santa Cruz	PLANT	Pectis imberbis	Beardless Chinch Weed	SC		S				PDAST6W0A0	S1	G3

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Santa Cruz	PLANT	Pedimelum sp 1								PDFABSLO00	S?	GNR
Santa Cruz	PLANT	Pellaea temifolia	Temate Cliffbrake							PPADI0H0B0	S2	G5
Santa Cruz	PLANT	Penstemon discolor	Catalina Beardtongue			S			HS	PDSCRIL210	S2	G2
Santa Cruz	PLANT	Penstemon stenophyllus	Narrowleaf Beardtongue							PDSCRIL5V0	S3	G4?
Santa Cruz	PLANT	Penstemon superbus	Superb Beardtongue			S				PDSCRIL630	S2?	G3?
Santa Cruz	PLANT	Phyllanthus polygonoides	Knotleaf Flower							PDEUP130E0	S2	G5
Santa Cruz	PLANT	Physalis latiphysa	Broad-leaf Ground-cherry			S				PDSOL0S0H0	S1	G1
Santa Cruz	PLANT	Plagiobothrys pringlei	Pringle Popcorn-flower							PDBOR0V0V0	S2	G2G4
Santa Cruz	PLANT	Polygala glochidiata	Spiny Milkwort							PDPGL020J0	S2	G5
Santa Cruz	PLANT	Polypogon elongatus	American Rabbitfoot Grass							PMPOA50020	S1	G5
Santa Cruz	PLANT	Psilotum nudum	Whisk Fern					HS		PPPSI01020	S1	G5
Santa Cruz	PLANT	Pyrrhopappus rothrockii	False Dandelion							PDAST7V050	S3	G4
Santa Cruz	PLANT	Ranunculus arizonicus	Arizona Buttercup							PDRAN0L0B0	S3	G4
Santa Cruz	PLANT	Rhynchosia edulis	Pan-american Snoutbean							PDFAB3F060	S2S3	G4G5
Santa Cruz	PLANT	Rhynchosia precatorea	Mexican Rosary Bean							PDFAB3F0H0	S2	G4
Santa Cruz	PLANT	Sagittaria longiloba	Flecha de Agua							PMALI040J0	S1	G5
Santa Cruz	PLANT	Samolus vagans	Chiricahua Mountain Brookweed			S				PDPRI09040	S2	G2?
Santa Cruz	PLANT	Schiedeella arizonica	Fallen Ladies'-tresses					SR		PMORC67020	S4	GNR
Santa Cruz	PLANT	Senecio carlomasonii	Seemann Groundsel			S				PDAST8H3W0	S2S3	G4?Q
Santa Cruz	PLANT	Senecio multidentatus var huachuacanus	Huachuca Groundsel			S			HS	PDAST8H411	S2	G2G4T2
Santa Cruz	PLANT	Sisyrinchium cernuum	Nodding Blue-eyed Grass			S				PMIRI0D0B0	S2	G5
Santa Cruz	PLANT	Solanum lumholtzianum	Lumholtz Nightshade			S				PDSOL0Z180	S3	G3G4
Santa Cruz	PLANT	Spiranthes delitescens	Madrean Ladies'-tresses	LE					HS	PMORC2B140	S1	G1
Santa Cruz	PLANT	Stenorrhynchos michuacanum	Michoacan Ladies'-tresses					SR		PMORC2B0L0	S3	G4
Santa Cruz	PLANT	Stevia lemmonii	Lemmon's Stevia			S				PDAST8V010	S2	G3G4
Santa Cruz	PLANT	Talinum goodingii	Goodding's Flameflower							PDPOR08090	S1	G1Q
Santa Cruz	PLANT	Talinum humile	Pinos Altos Flame Flower	SC		S			SR	PDPOR080A0	S1	G2

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Santa Cruz	PLANT	Talinum marginatum	Tepic Flame Flower	SC		S			SR	PDPOR080N0	S1	G2
Santa Cruz	PLANT	Tephrosia thurberi	Thurber Hoary Pea			S				PDFAB3X0M0	S3	G4G5
Santa Cruz	PLANT	Tillandsia recurvata	Ball Moss							PMBRO090E0	S2	G5
Santa Cruz	PLANT	Tithonia thurberi	Thurber Tithonia							PDAST9A030	S4	G4
Santa Cruz	PLANT	Tragia laciniata	Sonoran Noseburn			S				PDEUP1D060	S3?	G3G4
Santa Cruz	PLANT	Tripsacum lanceolatum	Mexican Gama Grass							PMPOA68030	S2S3	G4
Santa Cruz	PLANT	Viola umbraticola	Shade Violet			S				PDVIO042E0	S2?	G3G4
Santa Cruz	REPTILE	Aspidoscelis burti stictogrammus	Giant Spotted Whiptail	SC	S	S				ARACJ02011	S2	G4T4
Santa Cruz	REPTILE	Crotalus lepidus klauberi	Banded Rock Rattlesnake				PR			ARADE02051	S3	G5T5
Santa Cruz	REPTILE	Crotalus pricei	Twin-spotted Rattlesnake				PR			ARADE02080	S2	G5
Santa Cruz	REPTILE	Crotalus willardi willardi	Arizona Ridge-nosed Rattlesnake			S	PR		WSC	ARADE02132	S1S2	G5T4
Santa Cruz	REPTILE	Eumeces callicephalus	Mountain Skink							ARACH01030	S2	G4G5
Santa Cruz	REPTILE	Gopherus agassizii (Sonoran Population)	Sonoran Desert Tortoise	SC			A		WSC	ARAAF01013	S4	G4T4
Santa Cruz	REPTILE	Gyalopion canum	Chihuahuan Hook-nosed Snake							ARADB16010	S3	G5
Santa Cruz	REPTILE	Gyalopion quadrangulare	Thornscrub Hook-nosed Snake				PR			ARADB16020	S1	G4
Santa Cruz	REPTILE	Heterodon nasicus kemnerlyi	Mexican Hog-nosed Snake				PR			ARADB17012	S3	G5T4
Santa Cruz	REPTILE	Lampropeltis getula nigrita	Western Black Kingsnake			S	A			ARADB19026	S3	G5T3T4Q
Santa Cruz	REPTILE	Oxybelis aeneus	Brown Vinesnake						WSC	ARADB24010	S1	G5
Santa Cruz	REPTILE	Phrynosoma hernandesi	Greater Short-horned Lizard							ARACF12080	S4	G5
Santa Cruz	REPTILE	Sceloporus slevini	Slevin's Bunchgrass Lizard							ARACF14180	S2	G4
Santa Cruz	REPTILE	Senticolis triaspis intermedia	Northern Green Ratsnake							ARADB44011	S3	G5T4
Santa Cruz	REPTILE	Tantilla wilcoxi	Chihuahuan Black-headed Snake							ARADB35120	S1	G5
Santa Cruz	REPTILE	Tantilla yaquia	Yaqui Black-headed Snake							ARADB35130	S2	G4
Santa Cruz	REPTILE	Terrapene ornata luteola	Desert Box Turtle				PR			ARAAD08021	S2S3	G5T4
Santa Cruz	REPTILE	Thamnophis eques megalops	Northern Mexican Gartersnake	SC		S	A		WSC	ARADB36061	S1	G5T5
Yavapai	AMPHIBIAN	Bufo microscaphus	Arizona Toad	SC		S				AAABB01110	S3S4	G3G4
Yavapai	AMPHIBIAN	Rana chiricahuensis	Chiricahua Leopard Frog	LT		S	A		WSC	AAABH01080	S2	G3