

PATTERNS & LOGIC

Reasoning Lab • Rules, Machines, and Patterns

Objective: *Find the rule, continue the pattern, and run the subtraction machine.*

DO THIS Find the rule, continue each pattern, and run the subtraction machine.

FIND THE RULE A pattern changes by the same amount each step.

EXAMPLE What is the rule?

100, 98, 96, 94, 92

Rule: subtract 2 each time.

CONTINUE THE PATTERN Write the next two numbers and the rule.

1

98, 95, 92, ,

Rule: ____

2

97, 92, 87, ,

Rule: ____

3

96, 86, 76, ,

Rule: ____

SUBTRACTION MACHINE Subtract 10 from each IN. Fill the OUT column.

IN	OUT (-10)
14	
30	
31	
90	

Every number that goes IN comes OUT 10 smaller. The rule is the same every time.

ODD ONE OUT Circle the number that does not fit the rule (subtract 2).

10, 8, 6, 5, 4, 2 — it breaks the pattern.

The rule was: subtract the same amount different each time

TEACHER EDITION

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EXAMPLE What is the rule?

100, 98, 96, 94, 92

Rule: subtract 2 each time.

CONTINUE THE PATTERN Write the next two numbers and the rule.

1

98, 95, 92, 89, 86

Rule: subtract 3

2

97, 92, 87, 82, 77

Rule: subtract 5

3

96, 86, 76, 66, 56

Rule: subtract 10

SUBTRACTION MACHINE Subtract 10 from each IN. Fill the OUT column.

IN	OUT (-10)
14	4
30	20
31	21
90	80

Every number that goes IN comes OUT 10 smaller. The rule is the same every time.

ODD ONE OUT Circle the number that does not fit the rule (subtract 2).

10, 8, 6, 5, 4, 2 — it breaks the pattern.

TEACHER NOTES Answer key & guidance

Answers: constant-difference patterns
Common error: Assuming the rule changes between steps

Strategy: Find the constant difference between terms
Prompt: "How much smaller is each number than the one before?"

The rule was: subtract the same amount different each time