LESSON MAKER PRO

Rule Detectives

Find the rule, then use it.

GRADE 5 · 5.OA.B

CCSS.Math.Content.5.OA.B "Analyze patterns and relationships."

NAME _____ DATE _____

SPOT THE RULE

A pattern follows the same rule each time. Look at input-output pairs to find what happens to each input.

WORKED EXAMPLE

Rule: multiply by 5. What is the output for 7?

1. Start with 7.
2. 7 times 5 = 35.
3. The output is 35.

Answer: 35

PRACTICE 5 problems

1 Rule: add 8. Input: 26. Output: ___

ANSWER _____

2 Rule: multiply by 3. Input: 12. Output: ___

ANSWER _____

3 2 gives 18. 3 gives 27. What does 4 give?

ANSWER _____

4 Rule: subtract 11. The output is 29. What is the input?

ANSWER _____

5 Pattern A: 10, 14, 18. Pattern B: 13, 17, 21. How much greater is each Pattern B term?

ANSWER _____

APPLY IT Show your work

1 A game team earns 24 points for each level it finishes. It finishes 6 levels. Write the rule and find its points.

WORK SPACE

ANSWER _____

2 A skateboarder makes 9 jumps on Monday, 13 on Tuesday, and 17 on Wednesday. If the pattern continues, how many jumps will the skateboarder make on Thursday?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Inputs 8, 11, and 14 have outputs 25, 34, and 43. Find the rule. Then find the output for input 20.

WORK SPACE AND ANSWER

ANSWER KEY

Rule Detectives

GRADE 5 · 5.OA.B

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Rule: add 8. Input: 26. Output: ___	**34**
2	Rule: multiply by 3. Input: 12. Output: ___	**36**
3	2 gives 18. 3 gives 27. What does 4 give?	**36**
4	Rule: subtract 11. The output is 29. What is the input?	**40**
5	Pattern A: 10, 14, 18. Pattern B: 13, 17, 21. How much greater is each Pattern B term?	**3**

PART 2 · APPLY IT

1. **144 points** Multiply levels by 24; 144 points. Use 24 points for each of 6 levels. 24 times 6 = 144.
2. **21 jumps** The number of jumps increases by 4 each day. 17 + 4 = 21.

CHALLENGE

Multiply the input by 3, then add 1; 61

Accept equivalent wording for rules, such as “times 3, then plus 1.”