LESSON MAKER PRO

Pattern Power

Find the rule and keep the pattern growing.

GRADE 3 · MA.3.AR.3

MA.3.AR.3 "Identify numerical patterns, including multiplicative patterns."

NAME _____ DATE _____

SPOT THE RULE

Look at how each number changes to the next number. In a multiplicative pattern, you multiply by the same number each time. Use that rule again and again to find missing terms.

WORKED EXAMPLE

Find the next two numbers: 7, 21, 63, ____, ____.

1. 21 is 7 × 3.
2. 63 is 21 × 3, so the rule is multiply by 3.
3. 63 × 3 = 189.
4. 189 × 3 = 567.

Answer: 189, 567

PRACTICE 6 problems

1 Find the next two numbers: 5, 10, 20, ___, ___.

ANSWER _____

2 Find the next number: 4, 16, 64, ___.

ANSWER _____

3 Find the next number: 9, 18, 36, ___.

ANSWER _____

4 Find the next number: 11, 22, 44, ___.

ANSWER _____

5 Find the next number: 13, 52, 208, ___.

ANSWER _____

6 What is the rule, and what is the next number? 6, 30, 150, ___.

ANSWER _____

APPLY IT Show your work

1 A player begins a game with 12 points. In each new round, the player's points are multiplied by 5. How many points will the player have after the next two rounds?

WORK SPACE

ANSWER _____

2 Maya has 25 coins in a pet game. Each treasure chest multiplies her coins by 4. She opens two treasure chests. How many coins does Maya have?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A pattern starts with 15. Each new number is twice the number before it. The pattern has five numbers total. Write all five numbers, then explain the rule.

WORK SPACE AND ANSWER

ANSWER KEY # Pattern Power

GRADE 3 · MA.3.AR.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the next two numbers: 5, 10, 20, ___, ___.	**40, 80**
2	Find the next number: 4, 16, 64, ___.	**256**
3	Find the next number: 9, 18, 36, ___.	**72**
4	Find the next number: 11, 22, 44, ___.	**88**
5	Find the next number: 13, 52, 208, ___.	**832**
6	What is the rule, and what is the next number? 6, 30, 150, ___.	**Multiply by 5; 750**

PART 2 · APPLY IT

1. **300 points** Multiply 12 by 5 to get 60. Multiply 60 by 5 to get 300.
2. **400 coins** Multiply 25 by 4 to get 100. Multiply 100 by 4 to get 400.

CHALLENGE

15, 30, 60, 120, 240. Each number is multiplied by 2 to make the next number.

Accept correct multiplication language such as "times 5" or "multiply by 5." For the challenge, students should list all five terms in order and explain that each term is doubled.