Numerical Patterns

Lesson 9.5

COMMON CORE STANDARD CC.5.OA.3
Analyze patterns and relationships.

Complete the rule that describes how one sequence is related to the other. Use the rule to find the unknown term.

1. Multiply the number of laps by __50__ to find the number of yards.

    Think: The number of yards is 50 times the number of laps.

Swimmers	1	2	3	4
Number of Laps	4	8	12	16
Number of Yards	200	400	600	**800**

2. Multiply the number of pounds by _____ to find total cost.

Boxes	1	2	3	4	6
Number of Pounds	3	6	9	12	18
Total Cost ($)	12	24	36	48	

3. Multiply the number of hours by _____ to find the number of miles.

Cars	1	2	3	4
Number of Hours	2	4	6	8
Number of Miles	130	260	390	

4. Multiply the number of hours by _____ to find the amount earned.

Days	1	2	3	4	7
Number of Hours	8	16	24	32	56
Amount Earned ($)	96	192	288	384	

Problem Solving REAL WORLD

5. A map distance of 5 inches represents 200 miles of actual distance. Suppose the distance between two cities on the map is 7 inches. What is the actual distance between the two cities? Write the rule you used to find the actual distance.

    _____

    _____

    _____

    _____

6. To make one costume, Rachel uses 6 yards of material and 3 yards of trim. Suppose she uses a total of 48 yards of material to make several costumes. How many yards of trim does she use? Write the rule you used to find the number of yards of trim.

    _____

    _____

    _____

    _____

Lesson Check (CC.5.OA.3)

Use the table below to answer questions 1 and 2.

Term Number	1	2	3	4	6
Sequence 1	4	8	12	16	24
Sequence 2	12	24	36	48	?

1. What rule could you write that relates Sequence 2 to Sequence 1?

   (A) Add 8.

   (B) Multiply by 3.

   (C) Multiply by 4.

   (D) Add 48.

2. What is the unknown number in Sequence 2?

   (A) 48   (C) 72

   (B) 60   (D) 96

Spiral Review (CC5.OA.1, CC.5.NBT.1, CC.5.NF.2, CC.5.NF.3)

3. What is the value of the following expression? (Lesson 1.12)

$$40 - (3 + 2) \times 6$$

   (A) 10

   (B) 49

   (C) 210

   (D) 234

4. What is the value of the digit 9 in the number 597,184? (Lesson 1.2)

   (A)   900

   (B)   9,000

   (C)   90,000

   (D) 900,000

5. Which is the best estimate for the sum of $\frac{3}{8}$ and $\frac{1}{12}$? (Lesson 6.3)

   (A) 0

   (B) $\frac{1}{2}$

   (C) 1

   (D) 4

6. Terry uses 3 cups of pecans to decorate the tops of 12 pecan pies. She puts an equal amount of pecans on each pie. How many cups of pecans does she put on each pie? (Lesson 8.3)

   (A) 9 cups

   (B) 4 cups

   (C) $\frac{1}{3}$ cup

   (D) $\frac{1}{4}$ cup