

# Write a Rule for Number Patterns in Tables

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Interactive Examples

Find the rule to describe the pattern in the table. Decide if the rule is additive or multiplicative.

1.

| Input | Output |
|-------|--------|
| $m$   | $n$    |
| 1     | 11     |
| 2     | 22     |
| 3     | 33     |
| 4     | 44     |

The rule is \_\_\_\_\_.

Rule: \_\_\_\_\_

2.

| Input  | $d$ | 3 | 5 | 7  | 9  |
|--------|-----|---|---|----|----|
| Output | $f$ | 7 | 9 | 11 | 13 |

The rule is \_\_\_\_\_.

Rule: \_\_\_\_\_

3.

| Input  | $p$ | 2  | 3  | 4  | 5  |
|--------|-----|----|----|----|----|
| Output | $q$ | 30 | 45 | 60 | 75 |

The rule is \_\_\_\_\_.

Rule: \_\_\_\_\_

4.

| Input | Output |
|-------|--------|
| $s$   | $t$    |
| 4     | 10     |
| 6     | 12     |
| 8     | 14     |
| 10    | 16     |

The rule is \_\_\_\_\_.

Rule: \_\_\_\_\_

## Problem Solving

5. Marco pours 12 ounces of cranberry juice into a punch bowl. He uses a container to add sparkling water to the bowl one ounce at a time. Write a rule to show the pattern and use it to calculate how many ounces of liquid Marco will have in the bowl after adding 8 containers of sparkling water.

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## Lesson Check

Fill in the bubble completely to show your answer.

6. The winning entry in the inventors' competition was a robot made with wheels, gears, and bolts. Using the table shown below, how many bolts are needed to make 7 robots?

|                         |   |    |    |    |
|-------------------------|---|----|----|----|
| <b>Number of robots</b> | 1 | 2  | 3  | 4  |
| <b>Wheels</b>           | 4 | 8  | 12 | 16 |
| <b>Gears</b>            | 3 | 6  | 9  | 12 |
| <b>Bolts</b>            | 8 | 16 | 24 | 32 |

- (A) 40                      (C) 28  
(B) 21                      (D) 56
8. The equation  $c = \$0.75p$  represents the cost of mailing a package for each pound, where  $c$  is the cost and  $p$  is the number of pounds. If Leila mails a package that weighs 5 pounds, what is the total cost?
- (A) \$3.00  
(B) \$4.50  
(C) \$3.75  
(D) \$3.55

7. Which of the following rules describes the pattern in the table?

|               |     |    |    |    |
|---------------|-----|----|----|----|
| <b>Input</b>  | $h$ | 3  | 4  | 5  |
| <b>Output</b> | $j$ | 12 | 13 | 14 |

- (A)  $j = h + 9$   
(B)  $j = 9h$   
(C)  $h = j + 9$   
(D)  $h = 9j$
9. The equation  $d = m + 16$  represents the total distance traveled after driving  $m$  number of miles. If Mrs. Kiki drives 35 miles, what is the total distance traveled?
- (A) 41 miles  
(B) 21 miles  
(C) 51 miles  
(D) 19 miles

## Spiral Review

10. Which product is greater than  $\frac{3}{8}$ ?
- (A)  $\frac{3}{8} \times \frac{1}{2}$   
(B)  $\frac{3}{8} \times \frac{7}{8}$   
(C)  $\frac{3}{8} \times \frac{8}{7}$   
(D)  $\frac{3}{8} \times \frac{11}{12}$
11. Which is another way to write  $\frac{15}{9}$ ?
- (A)  $15 \times 9$   
(B)  $9 \times 15$   
(C)  $15 \div 9$   
(D)  $9 \div 15$