

Quick Review

Think about how the values of variables affect each other.

To identify the dependent variable, ask yourself which variable depends on the other.

To identify the independent variable, ask yourself which variable causes the change.

Example

The spirit squad is washing cars. The equation $m = 2c$ represents the money they make, m , for washing c cars. Identify the dependent variable and the independent variable.

The amount of money the spirit squad makes **depends** on the number of cars they wash. The dependent variable is m .

The number of cars washed changes the amount of money made. The independent variable is c .

Practice

Identify the dependent variable and the independent variable in each situation.

1. The distance traveled, d , and the speed, s
2. The calories, c , in a snack and the amount of the snack, a
3. The amount of money you have spent, s , and how much money you have left, m
4. The number of apple slices remaining, r , and the number of apple slices eaten, e

Quick Review

Look for patterns between two related variables to find rules and write equations.

Example

Write a rule and an equation that represents the pattern. Then complete the table.

| | | | | | |
|-----|----|----|----|----|----|
| x | 3 | 4 | 5 | 6 | 7 |
| y | 12 | 16 | 20 | 24 | 28 |

Find the rule and write an equation.

12 is 3×4

16 is 4×4

20 is 5×4

Rule: The value of y is 4 times the value of x .

Equation: $y = 4x$

Evaluate the equation for $x = 6$ and $x = 7$.

$y = 4 \times 6 = 24$

$y = 4 \times 7 = 28$

Practice

1. Find the pattern and then write a rule and an equation that represents the pattern. Then complete the table.

| | | | | | |
|-----|---|---|----|----------------------|----------------------|
| x | 0 | 2 | 10 | 16 | 20 |
| y | 0 | 1 | 5 | <input type="text"/> | <input type="text"/> |

2. Use the equation to complete the table.

$y = 6x + 1$

| | | | | | |
|-----|----------------------|----------------------|----------------------|----------------------|----------------------|
| x | 1 | 2 | 3 | 4 | 5 |
| y | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |



Quick Review

A table, equation, or graph can be used to analyze the relationship between dependent and independent variables. Ordered pairs that make an equation true can be used to graph the equation.

Example

Complete the table and graph to show the relationship between the variables in the equation $t = s + 1$.

A restaurant has a special that when you buy one sandwich you get a second sandwich for \$1.

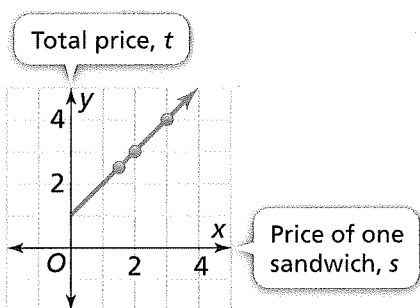
Let s = price of one sandwich.

Let t = total price of two sandwiches.

Step 1 Make a table. Include at least three values.

| $t = s + 1$ | |
|-------------|--------|
| s | t |
| \$1.50 | \$2.50 |
| \$2 | \$3 |
| \$3 | \$4 |

Step 2 Graph each ordered pair on a coordinate plane. Then draw a line through the points.



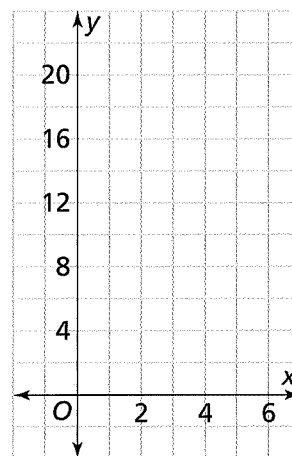
Practice

1. The cross country team practices by jogging on the town's streets. The average jogging rate is 6 miles per hour. One member jogged for 3.5 hours one weekend. How many miles did the team member jog?

a. Complete the table to relate the number of miles to the number of hours jogged.

| x | y |
|-----|----------------------|
| 1 | <input type="text"/> |
| 2 | <input type="text"/> |
| 3 | <input type="text"/> |

b. Graph the ordered pairs on the coordinate plane.



c. Write an equation that describes the relationship. Then solve the problem.

2. Alex is making puppets for a show. He bought all the string needed for \$125. It costs \$18 for the remaining materials to make each puppet. What is the total cost to make 50 puppets?

