

7.4 Exercises



Vocabulary and Concept Check

1. **VOCABULARY** How are independent variables and dependent variables different?

2. **PRECISION** Explain how to graph an equation in two variables.

3. **WHICH ONE DOESN'T BELONG?** Which one does *not* belong with the other three? Explain your reasoning.

$$y = 12x + 25$$

$$c = 10t - 5$$

$$a = 7b + 11$$

$$n = 4n - 6$$



Practice and Problem Solving

Tell whether the ordered pair is a solution of the equation.

10. $y = 7x + 2$; (2, 0) _____

12. **ERROR ANALYSIS** Describe and correct the error in finding a solution of the equation in two variables.



$$y = 3x + 2; (5, 1)$$

$$5 = 3(1) + 2$$

$$5 = 5$$

So, (5, 1) is a solution.

Identify the independent and dependent variables.

14. The equation $c = 0.09s$ gives the amount c (in dollars) of commission a salesperson receives for making a sale of s dollars.

Independent variable: _____

Dependent variable: _____

16. The equation $h = 60 - 4m$ gives the height h (in inches) of the water in a tank m minutes after it starts to drain.

Independent variable: _____

Dependent variable: _____

24. **TEXTING** The maximum size of a text message is 160 characters. A space counts as one character.
- Write an equation in two variables that represents the remaining (unused) characters in a text message as you type.
 - Identify the independent and dependent variables.
 - How many characters remain in the message shown?



a. _____

b. Independent variable: _____

Dependent variable: _____

c. _____

Write and graph an equation in two variables that shows the relationship between the time and the distance traveled.

26.



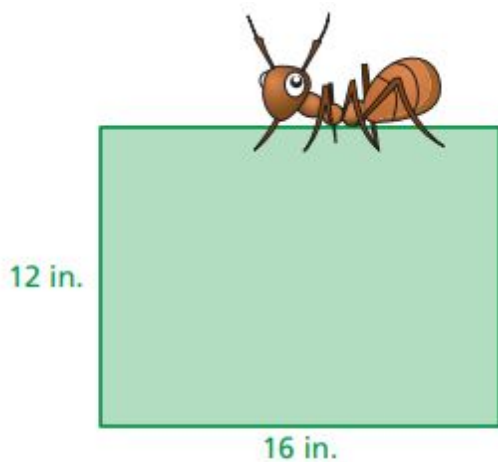
Moves 2 meters every 3 hours.



Equation: _____

Graph it on your grid.

36. **ANT** How fast should the ant walk to go around the rectangle in 4 minutes?



38. PROBLEM SOLVING You and a friend start biking in opposite directions from the same point. You travel 108 feet every 8 seconds. Your friend travels 63 feet every 6 seconds.

a. How far apart are you and your friend after 15 minutes?

b. After 20 minutes, you take a 5-minute rest, but your friend does not. How far apart are you and your friend after 40 minutes? Explain your reasoning.

a. _____

b. _____

