

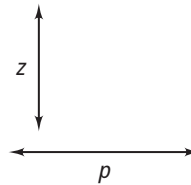


Vocabulary

Review

Underline the correct word to complete each sentence.

- Line z is a horizontal / vertical line.
- Line p is a horizontal / vertical line.
- A line with a slope of 0 is horizontal / vertical.
- A line with an undefined slope is horizontal / vertical.



Vocabulary Builder

standard (adjective) STAN durd

Other Word Forms: standards (plural noun), standardized (adjective)

Main Idea: Something that is **standard** is well known and widely used.

Example: The **standard** measure of weight used in the U.S. is the pound.

Math Usage: The **standard** form of a linear equation is $Ax + By = C$, where A , B , and C are real numbers, and A and B are not both zero.

Opposites: different, irregular

Use Your Vocabulary

Underline the correct word(s) to complete each sentence.

- In gymnastics, judges use a set of standards / standardized to award a score.
- Most English words have a standard / standardized pronunciation.
- Many states use standard / standardized tests to assess their students' performance.
- Multiple Choice** Which linear equation is in *standard* form?

<input type="radio"/> (A) $y = -6x + 4$	<input type="radio"/> (C) $3x - 7y = 42$
<input type="radio"/> (B) $y = -7x - 3$	<input type="radio"/> (D) $y - 6 = 2(x + 7)$



Problem 1 Finding x - and y -Intercepts

Got It? What are the x - and y -intercepts of the graph of $5x - 6y = 60$?

Complete each sentence.

9. To find the x -intercept, let $y =$.

10. To find the y -intercept, let $x =$.

11. Find the x -intercept.

$$5x - 6 \cdot \text{} = 60$$

$$5x - \text{} = 60$$

$$\text{} = 60$$

$$\text{} = 60$$

$$\frac{\text{$$

$$x = \text{}$$

12. Find the y -intercept.

$$5 \cdot \text{} - 6y = 60$$

$$\text{} - 6y = 60$$

$$\text{} = 60$$

$$\text{} = 60$$

$$\frac{\text{$$

$$y = \text{}$$

Got It? What are the x - and y -intercepts of the graph of $3x + 8y = 12$?

13. Find the x -intercept.

$$3x + 8 \cdot \text{} = 12$$

$$\text{} = 12$$

$$\text{} = 12$$

$$x = \text{}$$

14. Find the y -intercept.

$$3 \cdot \text{} + 8y = 12$$

$$\text{} = 12$$

$$\text{} = 12$$

$$y = \text{}$$



Problem 2 Graphing a Line Using Intercepts

Got It? What is the graph of $2x + 5y = 20$?

15. Circle the x -intercept of $2x + 5y = 20$.

$x = 1$

$x = 10$

$x = 20$

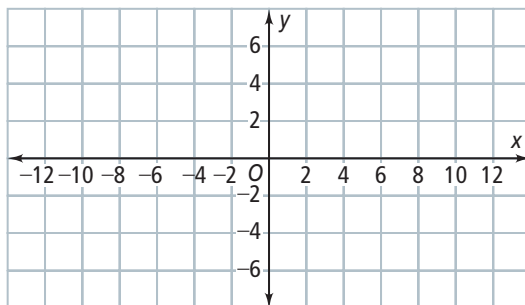
16. Circle the y -intercept of $2x + 5y = 20$.

$y = -5$

$y = -4$

$y = 4$

17. Use the intercepts to graph the line $2x + 5y = 20$.

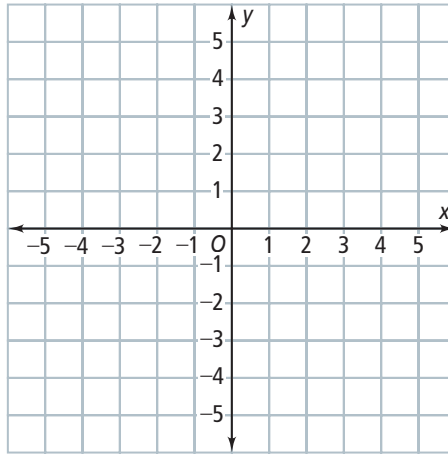




Problem 3 Graphing Horizontal and Vertical Lines

Got It? What is the graph of the equation $x = 4$?

18. The equation $x = 4$ means that for all values of y , the value of x is .
19. For the reason given above, the graph of $x = 4$ is a line.
20. Graph the equation $x = 4$.



Problem 4 Transforming to Standard Form

Got It? Write $y - 2 = -\frac{1}{3}(x + 6)$ in standard form using integers.

21. Circle the first step to put $y - 2 = -\frac{1}{3}(x + 6)$ in standard form.

Solve for y . Multiply both sides by -3 . Add x to both sides.

22. Now find the standard form of the equation using integers.

23. The standard form of the equation is $\cdot x +$ $\cdot y = 0$.



Problem 5 Using Standard Form as a Model

Got It? A media download store sells songs for \$1 each and movies for \$15 each. You have \$60 to spend. Write and graph an equation that describes the numbers of songs and movies you can purchase for \$60.

24. You cannot buy a fraction of a song or movie. Describe how you will use the graph of the equation to find solutions that make sense.

25. Use the model to help you complete the equation.

Relate $\text{cost of a song} \cdot \text{number of songs} + \text{cost of a movie} \cdot \text{number of movies}$ is \$60

Define Let x = the number of songs purchased.

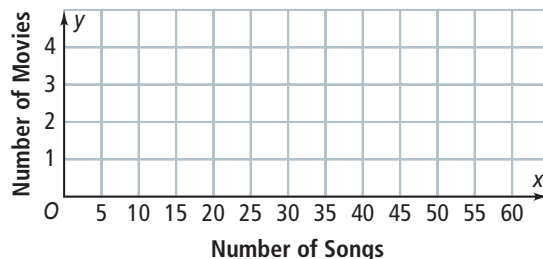
Let y = _____ .

Write $\square \cdot x + \square \cdot y = 60$

26. Find the intercepts of the equation.



27. Use the intercepts to graph the equation.



Lesson Check • Do you UNDERSTAND?

Vocabulary Tell whether each linear equation is in *slope-intercept form*, *point-slope form*, or *standard form*.

$$y + 5 = -(x - 2)$$

$$y = -2x + 5$$

$$y - 10 = -2(x - 1)$$

$$2x + 4y = 12$$

28. Draw a line from each equation in Column A to the form of the equation in Column B.

Column A

$$y + 5 = -(x - 2)$$

$$y = -2x + 5$$

$$y - 10 = -2(x - 1)$$

$$2x + 4y = 12$$

Column B

$$y = mx + b \text{ (Slope-Intercept Form)}$$

$$y - y_1 = m(x - x_1) \text{ (Point-Slope Form)}$$

$$Ax + By = C \text{ (Standard Form)}$$



Math Success

Check off the vocabulary words that you understand.

linear equation

x-intercept

standard form

Rate how well you can graph a linear equation using intercepts.

