NAME _____ DATE _____ PERIOD _____

8-3 Study Guide and Intervention

Graphing Linear Equations Using Intercepts

Finding Intercepts	
The x-intercept is the x-coordinate of a point where a graph crosses the x-axis. The y-coordinate of this point is 0.	To find the x-intercept, let $y = 0$ in the equation and solve for x.
The y-intercept is the y-coordinate of a point where a graph crosses the y-axis. The x-coordinate of this point is 0.	To find the y-intercept, let $x = 0$ in the equation and solve for y.

Example 1 **Find the x-intercept and the y-intercept for the graph of $2x + 5y = 10$.**

To find the x-intercept, let $y = 0$.

$2x + 5y = 10$ Write the equation.

$2x + 5(0) = 10$ Replace y with 0.

$x = 5$ Simplify.

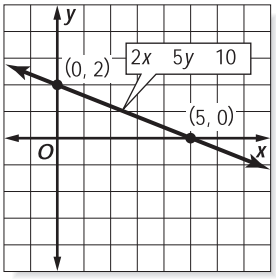
To find the y-intercept, let $x = 0$.

$2x + 5y = 10$ Write the equation.

$2(0) + 5y = 10$ Replace x with 0.

$y = 2$ Simplify.

Example 2 **Graph $2x + 5y = 10$.**



Exercises

Find the x-intercept and the y-intercept for the graph of each equation.

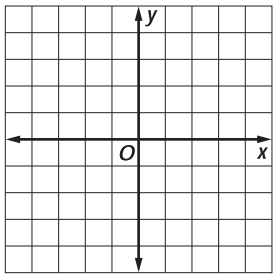
1. $y = x - 5$

2. $y - 1 = 0$

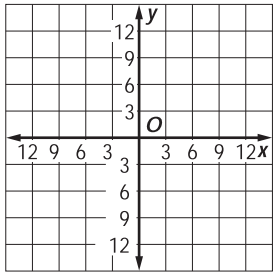
3. $3x - 2y = 12$

Graph each equation using the x- and y-intercepts.

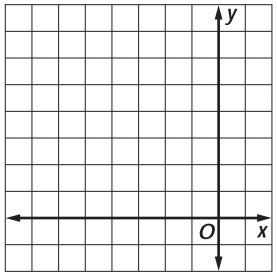
4. $y = -3x - 3$



5. $y = x + 5$



6. $y = -x + 9$



Lesson 8-3

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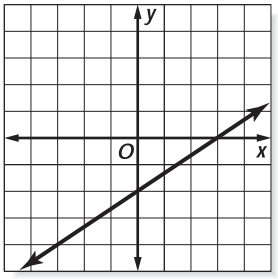
8-3 Skills Practice

Graphing Linear Equations Using Intercepts

State the *x*-intercept and the *y*-intercept of each line.

1.



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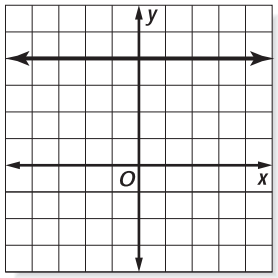

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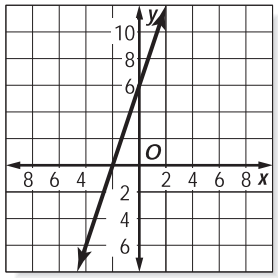


Find the *x*-intercept and the *y*-intercept for the graph of each equation.

4. $y = 2x + 6$

5. $3x - 5y = 30$

6. $y = -4x + 8$

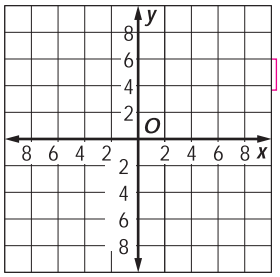
7. $y = 7x - 14$

8. $y = 12x + 6$

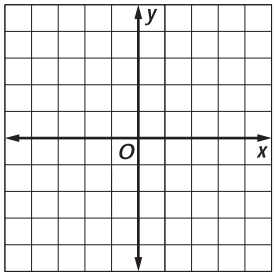
9. $y = 7$

Graph each equation using the *x*- and *y*-intercepts.

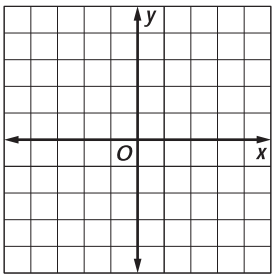
10. $y = -2x + 6$



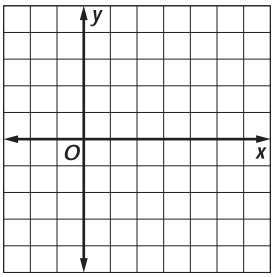
11. $y = -2$



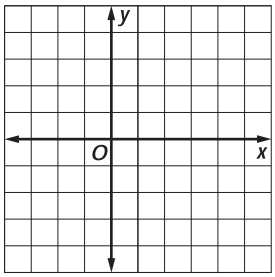
12. $y = -4x + 2$



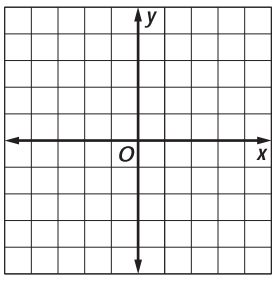
13. $y = \frac{2}{5}x - 2$



14. $x = 4$



15. $y = -x + 3$



NAME _____ DATE _____ PERIOD _____

8-3

Practice

Graphing Linear Equations Using Intercepts

Find the *x*-intercept and the *y*-intercept for the graph of each equation.

1. $y = 2x - 2$

2. $y + 4 = 0$

3. $y = 3x + 9$

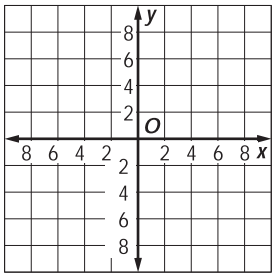
4. $6x + 12y = 24$

5. $5x - 3y = 15$

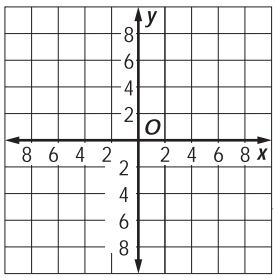
6. $-x - 7 = 0$

Graph each equation using the *x*- and *y*-intercepts.

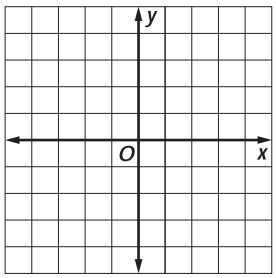
7. $y = x - 7$



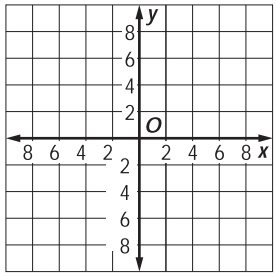
8. $y = -x + 5$



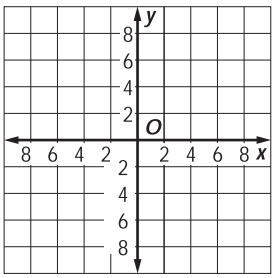
9. $y = 2x - 4$



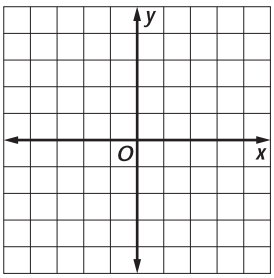
10. $y = -\frac{1}{7}x - 1$



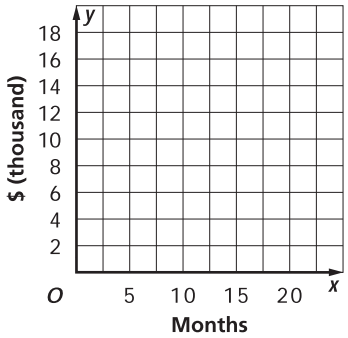
11. $5x + 2y = 10$



12. $x = 2$



13. SAVINGS Rashid's grandparents started a savings account for him, contributing $1000. He deposits $430 each month into the account. The equation $y = 430x + 1000$ represents how much money is in the savings account after x number of months. Graph the equation and explain what the y-intercept means.



Lesson 8-3