

Name: _____

Sec. 5.1: Write Linear Equations in Slope-Intercept Form

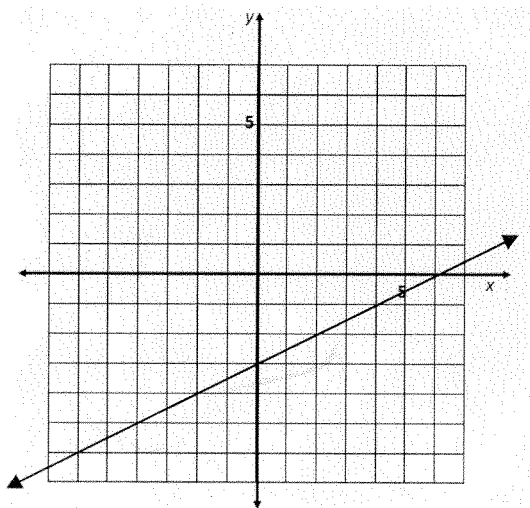
Review of Slope-Intercept Form: $y = mx + b$, where m is the _____ and b is the _____.

We have started with an equation and from that determined the slope and y -intercept, and then drawn a graph. Now we will work in the other direction: write an equation in slope-intercept form based on the _____ and the _____, or a _____ of the equation, or the _____ of _____ points on the line.

Examples

1. Write an equation of the line with slope 4 and y -intercept -5.

2. Write an equation of the line shown.

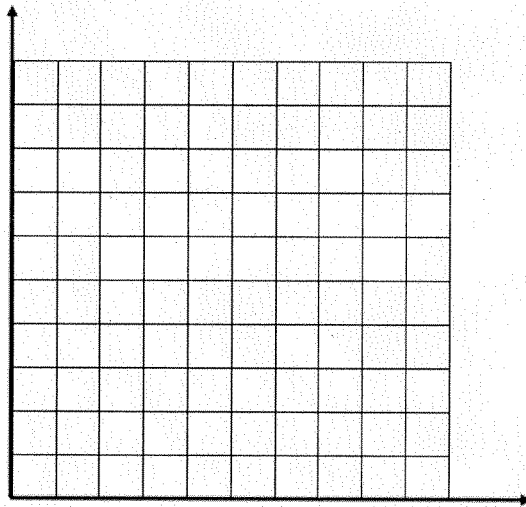


3. Write an equation of the line that passes through the points $(-14, 3)$ and $(14, -11)$.

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4. Write an equation for the linear function f with the given values: $f(0) = 7$ and $f(2) = 17$.

5. A hiking club charges \$30 to join the club and \$10 per hike. Write an equation and sketch a graph to describe that relationship.



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Sec. 5.1 Practice Problems

Write an equation of the line with the given slope and y-intercept.

1. slope: -2
y-intercept: 6

2. slope: 3
y-intercept: 5

3. slope: 4
y-intercept: -6

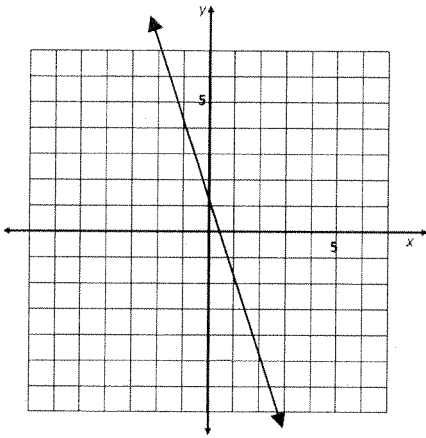
4. slope: $-\frac{2}{3}$
y-intercept: -7

5. slope: -1
y-intercept: 8

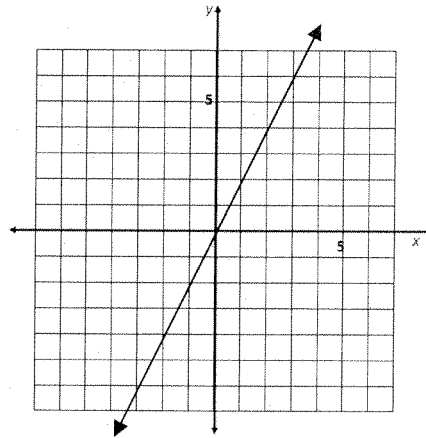
6. slope: 0
y-intercept: -5

Write an equation of the line shown.

7.



8.



Write an equation of the line that passes through the given points.

9. (-3, 1), (0, -8)

10. (2, -4), (0, -4)

11. (0, 5), (1.5, 1)

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Write an equation for the linear function f with the given values.

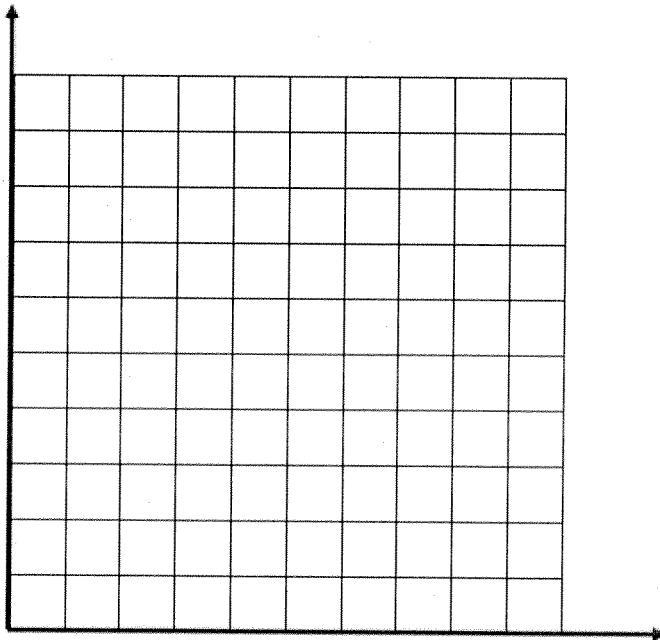
12. $f(0) = 2, f(2) = 4$

13. $f(-2) = 6, f(0) = -4$

14. $f(0) = -2, f(4) = -3$

15. Your family spends \$20 for tickets plus \$4 per hour for parking to visit a museum. Write an equation that gives the total cost of your family's visit to the museum as a function of the number of hours that you are there. Find the total cost of 4 hours at the museum.

16. Roger paid \$50 to join a tennis club, and pays \$10 for each day he plays tennis. Write an equation and sketch a graph to describe that relationship.



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ANSWERS to Sec. 5.1 Practice Problems

1. $y = -2x + 6$

2. $y = 3x + 5$

3. $y = 4x - 6$

4. $y = -\frac{2}{3}x - 7$

5. $y = -x + 8$

6. $y = -5$

7. $y = -3x + 1$

8. $y = 2x$

9. $y = -3x - 8$

10. $y = -4$

11. $y = -\frac{8}{3}x + 5$

12. $y = x + 2$

13. $y = -5x - 4$

14. $y = -\frac{1}{4}x - 2$

15. $C = 4h + 20$; \$36 for 4 hours

16. $C = 10d + 50$

