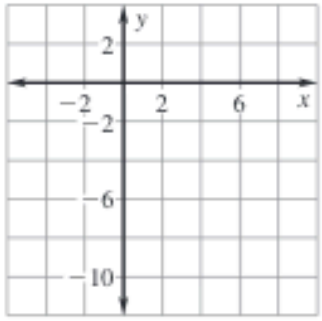
Algebra I

Review 3.4 - 3.6

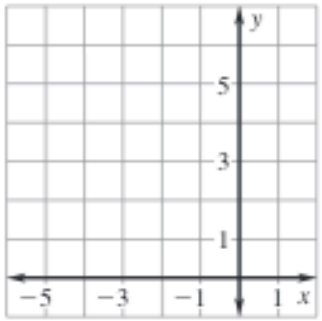
Name _____

Plot the points and draw a line through them. Without calculating, tell whether the slope of the line is *positive*, *negative*, *zero*, or *undefined*.

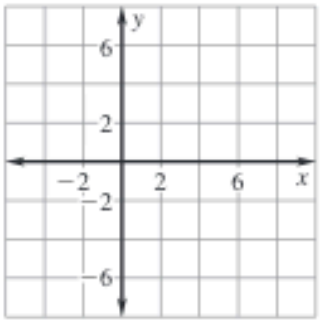
1. (1, −4) and (5, −8)



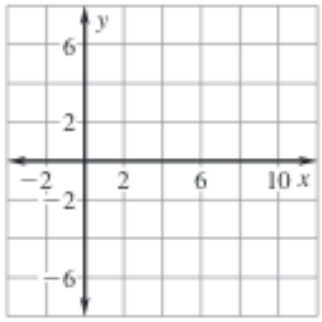
2. (−3, 6) and (−3, 0)



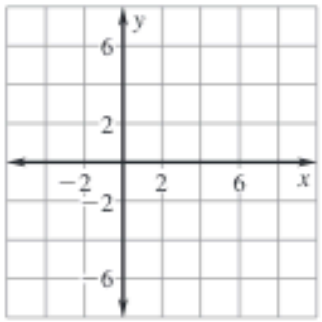
3. (−3, 3) and (7, −1)



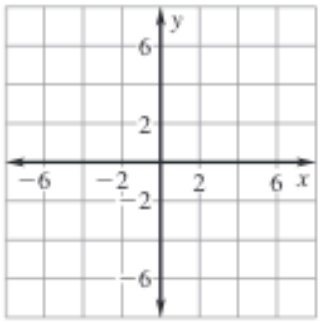
4. (0, −2) and (9, −5)



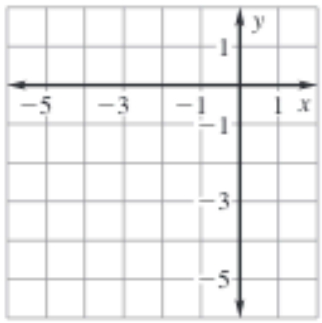
5. (7, 1) and (−2, 1)



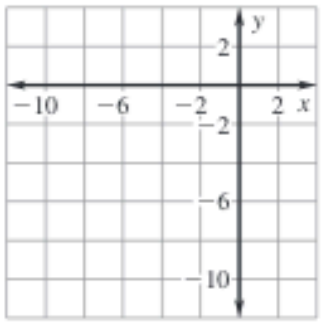
6. (−3, −1) and (6, −2)



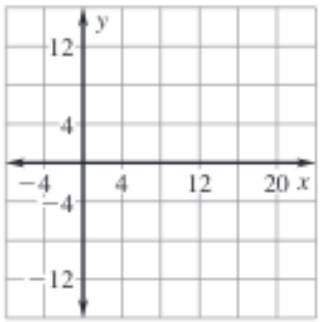
7. (−4, −5) and (−3, −2)



8. (−7, 1) and (−7, −8)

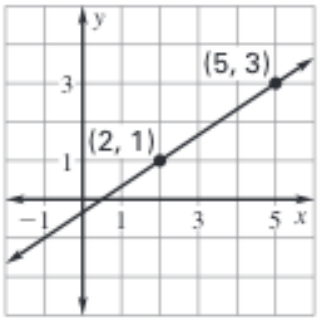


9. (2, −10) and (12, 10)



Find the slope of the line that passes through the points.

10.



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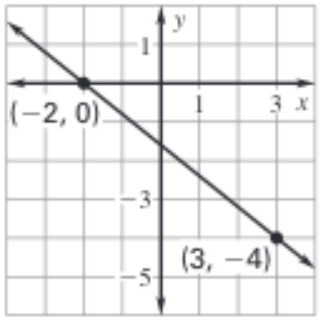

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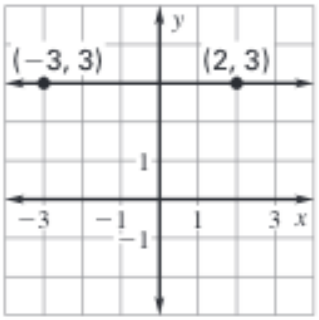

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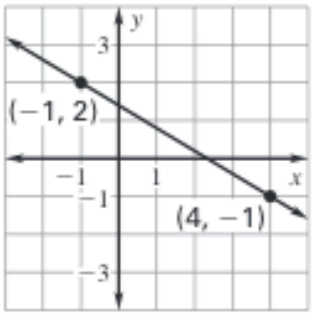

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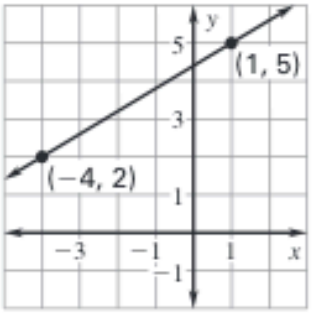

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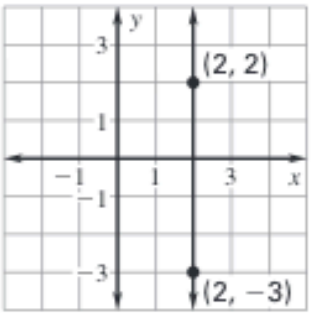


Find the slope of the line that passes through the points.

16. (1, 2) and (7, 7)

17. (3, 4) and (−5, 0)

18. (5, −2) and (5, 8)

19. (3, 1) and (−5, 3)

20. (−7, 1) and (1, 5)

21. (2, −5) and (5, −2)

22. (3, 0) and (8, 0)

23. (−6, −6) and (−2, −2)

24. (−5, −4) and (1, −2)

Find the value of *x* or *y* so that the line passing through the two points has the given slope.

25. $(-3, y), (-9, -2); m = 1$

26. $(-1, 4), (x, 3); m = \frac{1}{5}$

27. $(8, 1), (1, y); m = -1$

28. $(x, -7), (1, 2); m = 3$

29. $(9, y), (3, 2); m = \frac{2}{3}$

30. $(7, 5), (x, 2); m = \frac{3}{4}$

31. Trolley Bus The table shows the number of trolley buses in operation in the United States during certain years.

Year	1980	1985	1990	1995	2000
Number of buses	823	676	832	885	951

a. *Describe* the rates of change in the number of buses during the time period.

b. Determine the time intervals during which the number of trolley buses showed the greatest and least rates of change.

LESSON
3.5

Identify the slope and *y*-intercept of the line with the given equation.

1. $y = 5x - 4$

2. $y = 10 - 4x$

3. $9x + y = 8$

4. $12x + 3y = 9$

5. $6x - 2y = 2$

6. $2x + 5y = 10$

7. $9x - 3y = -1$

8. $4y + 6x = 2$

9. $8y - 2x = 5$

10. $5x + 5y = 3$

11. $-4y = 16$

12. $6x = 12$

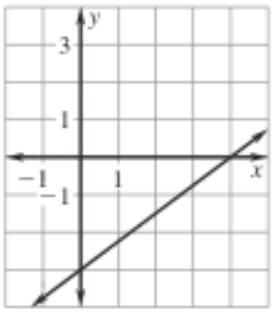
Match the equation with its graph.

13. $3x + 4y = 12$

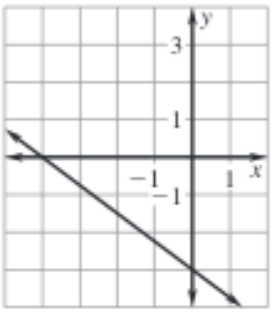
14. $3x + 4y = -12$

15. $3x - 4y = 12$

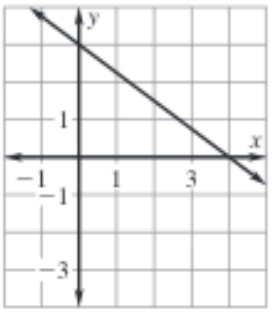
A.



B.

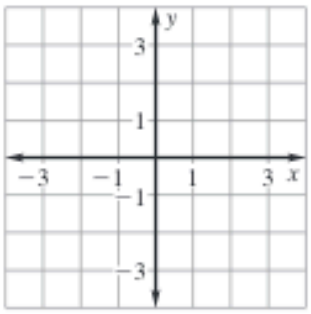


C.

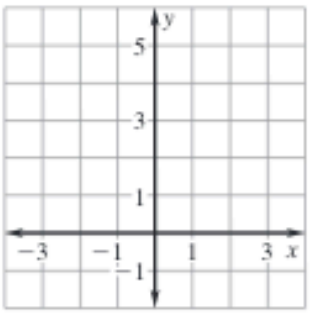


Graph the equation.

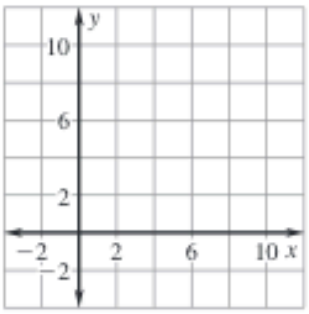
16. $y = -7x + 2$



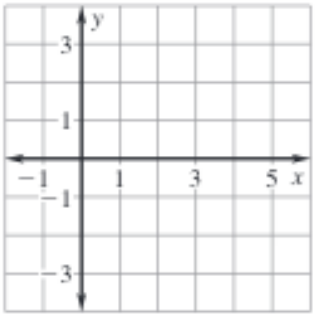
17. $y = 5x + 4$



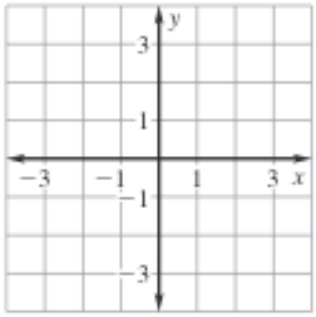
18. $y = -x + 9$



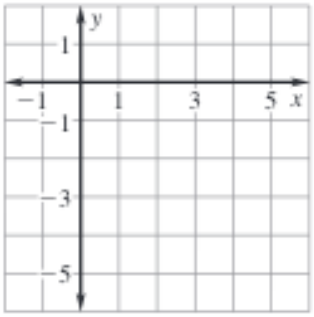
19. $y = \frac{1}{5}x$



20. $y = -\frac{2}{3}x + 1$

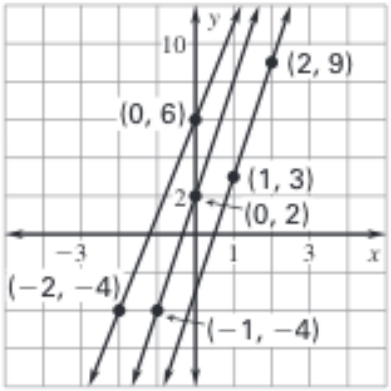


21. $y = \frac{4}{3}x - 5$

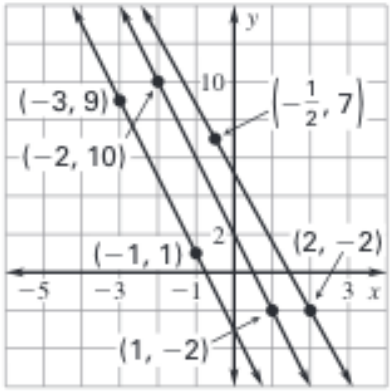


Determine which lines are parallel.

22.



23.



Tell whether the graphs of the two equations are parallel lines.

24. $y = 8x - 3, 8x + y = 3$

25. $2x + y = 5, -6 + 2x = y$

26. $2x + y = 5, y = 0.5x - 3$

27. $y = -0.6x + 2, 5y + 3x = 8$

28. $8x + 3y = 9, 3y - 4 = 8x$

29. $10x + 2y = 7, 5x - y = 6$

LESSON
3.6

Tell whether the equation represents direct variation. If so, identify the constant of variation.

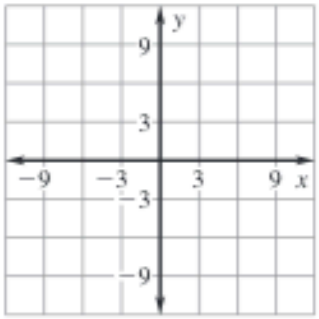
1. $y = 8x$

2. $y = 2x + 1$

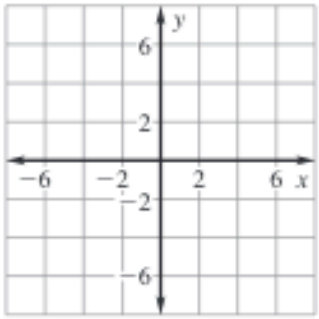
3. $3x + y = 6$

Graph the direct variation equation.

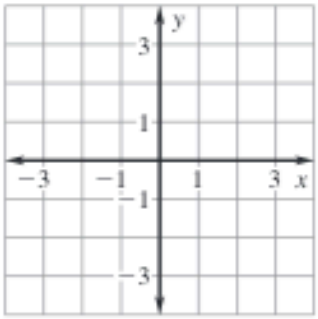
4. $y = 9x$



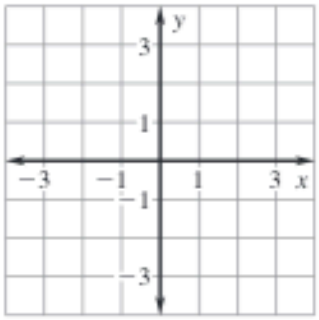
5. $y = -7x$



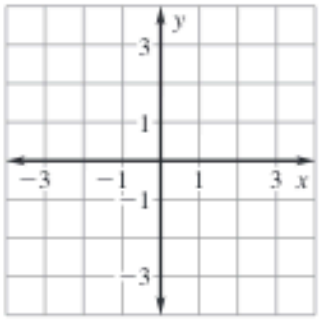
6. $3y = 4x$



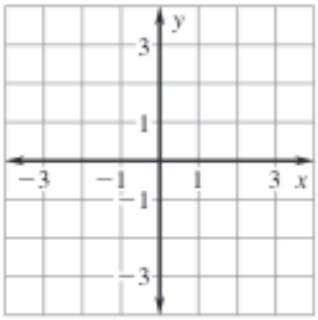
7. $4y = -12x$



8. $8y = x$

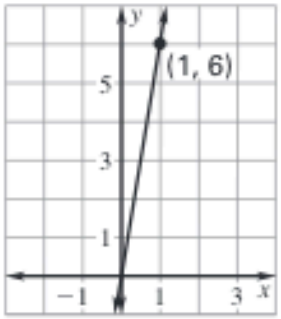


9. $8y = 6x$



The graph of a direct variation equation is shown. Write the direct variation equation. Then find the value of y when $x = 10$.

10.



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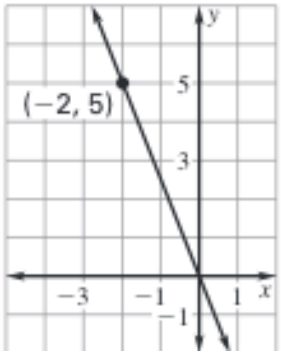

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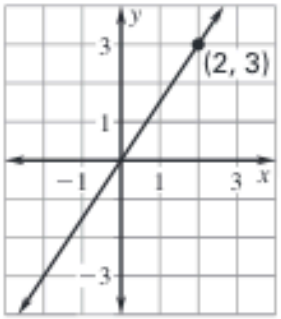

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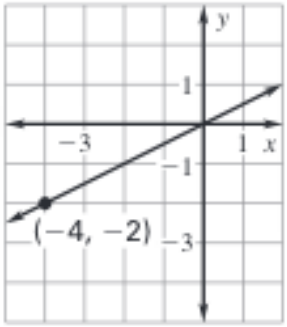

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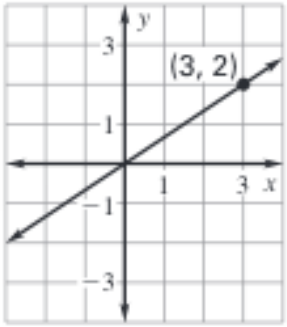

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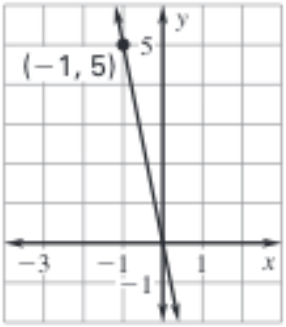

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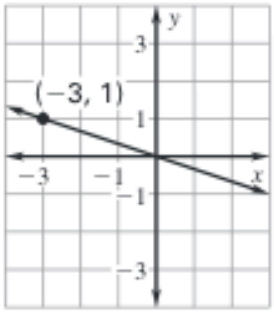

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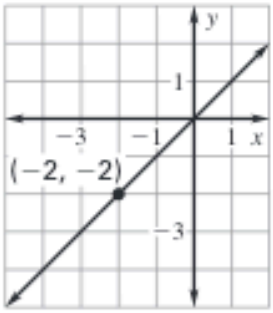

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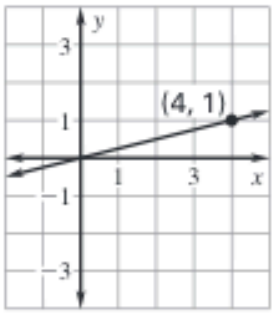

Tell whether the table represents direct variation. If so, write the direct variation equation.

19.

x	0.5	3	−2	1	−8
y	9	54	−36	18	−144

20.

x	−5	3	−2	10	20
y	−2	1.2	−0.8	4	8

21.

x	8	2	−4	−0.5	14
y	7	28	7	−112	4

22.

x	−0.2	−2	1	12	18
y	30	3	−6	−0.5	3

Given that *y* varies directly with *x*, use the specified values to write a direct variation equation that relates *x* and *y*.

23. $x = 24, y = 3$

24. $x = -16, y = -4$

25. $x = 28, y = -4$

26. $x = 5, y = -30$

27. $x = \frac{1}{6}, y = 1$

28. $x = 8, y = -3$

29. $x = 6, y = 102$

30. $x = -8, y = 64$

31. $x = 15, y = 9$