Answers for 3.5

For use with pages 184–187

3.5 Skill Practice

1. The point of intersection on the y-axis when graphing a line.

2. *Sample answer:* To find the x-intercept let $y = 0$ and solve for x. To find the y-intercept let $x = 0$ and solve for y.

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

4. $y = \frac{1}{5}x - 2$

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

6. $y = -\frac{6}{5}x - \frac{3}{5}$

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

8. $y = -\frac{1}{3}x - \frac{8}{3}$

9. B

10. $y = -5x - 12$

11. $y = 3x + 2$

12. $y = 4x - 6$

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

14. $y = \frac{4}{9}x - \frac{2}{9}$

15. $y = -\frac{11}{5}x - 12$

16. $y = -x - 1$

17. $y = 4x - 16$

18. $y = 3x - 20$

19. $y = -\frac{2}{3}x - \frac{22}{3}$

20. $y = -\frac{1}{6}x - 3$

21. $y = 7$

22. $x = 3$

23. $y = -2x - 1$

24. $y = -4$

25. $y = \frac{1}{5}x + \frac{37}{5}$

26. $x = -2$

27. $y = -\frac{5}{2}x - 4$

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

29. D

30. $y = \frac{1}{9}x$

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

32. $x = 4$

33. $y = \frac{1}{2}x + 2$

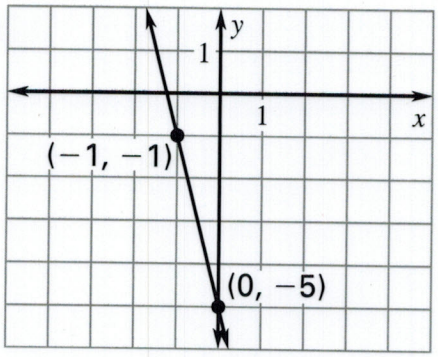
34. $y = -5$

35. $y = -\frac{5}{3}x - \frac{40}{3}$

Answers for 3.5 *continued*

For use with pages 184–187

36.



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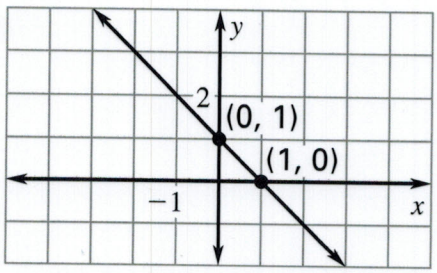

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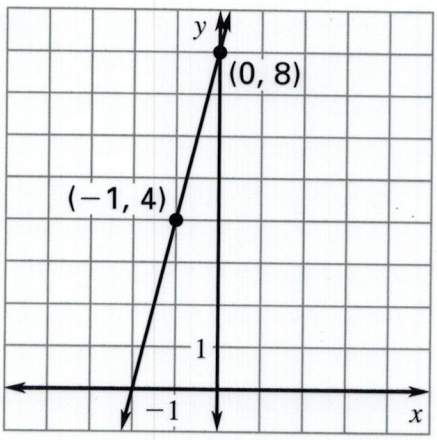

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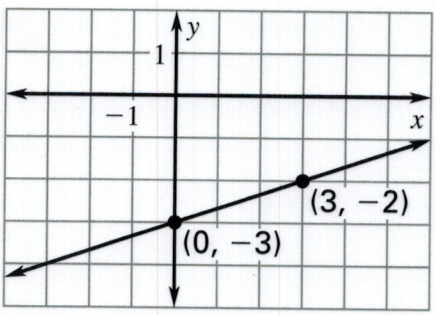

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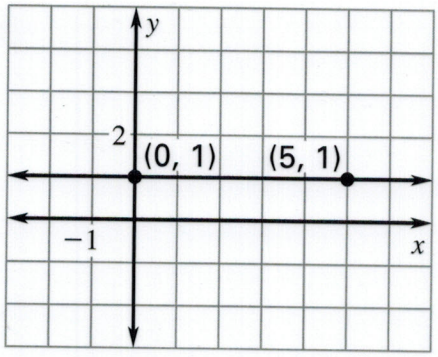

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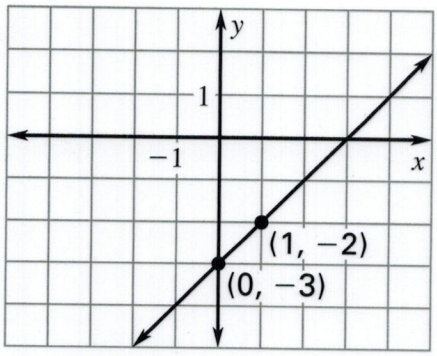

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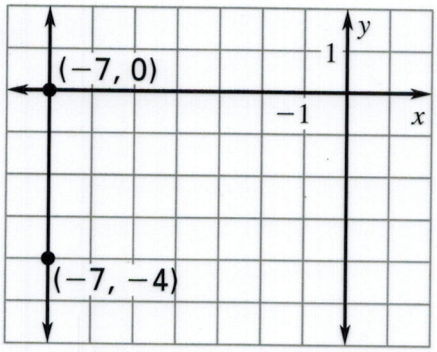

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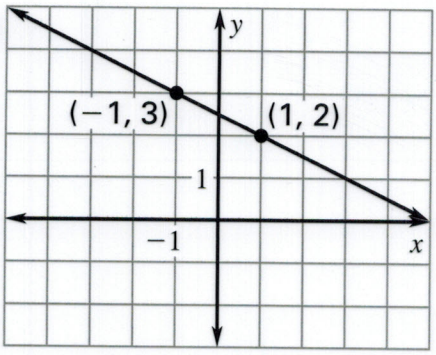

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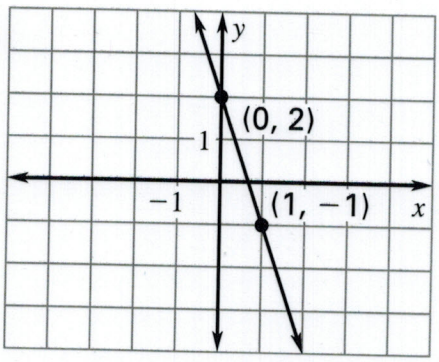


45. *Sample:* The student replaced the wrong variable with 0 to find each intercept. To find the x-intercept, let $y = 0$, $5x - 3(0) = -15$, $x = -3$, $(-3, 0)$. To find the y-intercept, let $x = 0$, $5(0) - 3y = -15$, $y = 5$, $(0, 5)$.

46. $y = 3x - 4$ and $3(x + 1) = y - 2$

47. $y = 0.5x + 7$ and $-x + 2y = -5$

48. no parallel lines

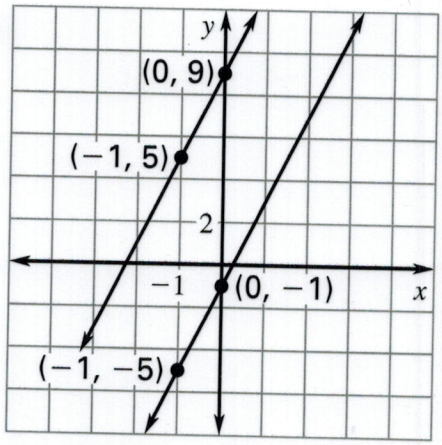
49. 4, 4; $y = -x + 4$

50. $-2, -5; y = -\frac{5}{2}x - 5$

51. $-20, 10; y = \frac{1}{2}x + 10$

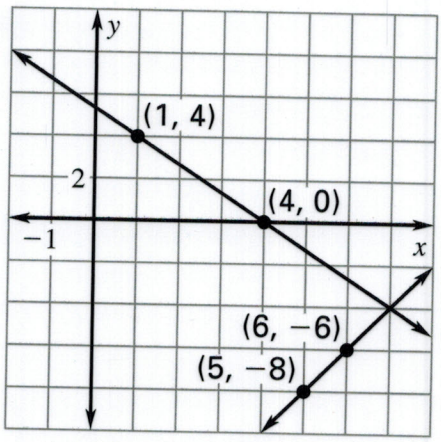
52. $(2, 0); \left(0, -\frac{1}{2}\right)$

53.



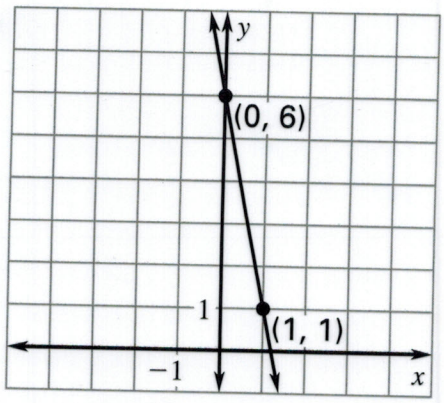
no solutions

54.



one solutions

55.

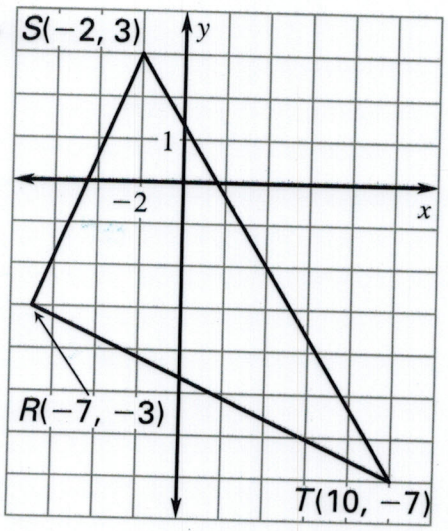


infinitely many solutions

56. Check students' work. *Sample answer:* If a false equation occurs the lines are parallel. If the variables drop out, a true equation occurs and the lines are the same line. If a point is found the lines intersect at that point.

57. 4 **58.** 5

59.



Check the slopes of each line segment. If two of the slopes are negative reciprocals of one another the lines are perpendicular and form a right angle.

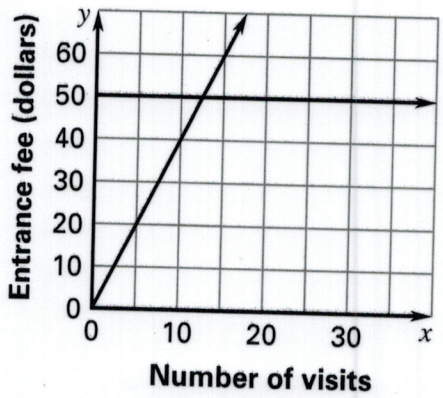
3.5 Problem Solving

60. $y = 23x + 50$; slope: the monthly charge, y-intercept: initial one-time charge \$326

61. $y = 2.1x + 2000$; slope: gain in weight per day, y-intercept: starting weight before the growth spurt

62. a. $y = 50, y = 4x$

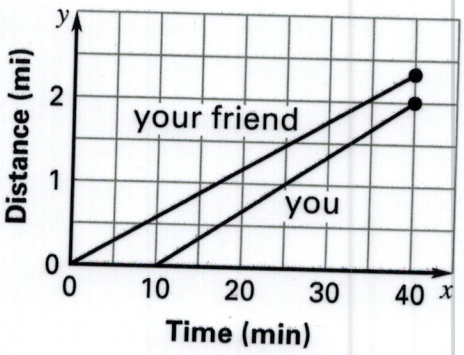
b.



c. 13 visits

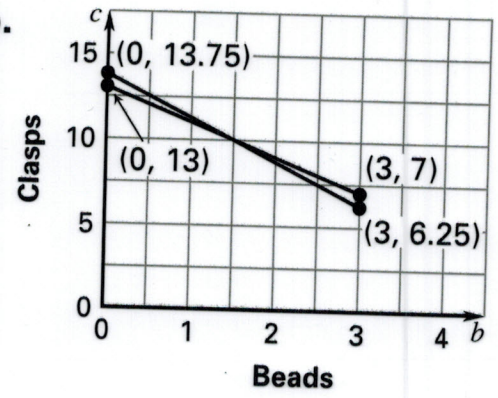
63. $2x + 3y = 24$; A: cost of a small slice, B: cost of a large slice, C: amount of money you can spend.

64. No;



65. a. $2b + c = 13, 5b + 2c = 27.50$

b.



65. c. *Sample answer:* It's where the number of packages of beads and the number of packages of clasps would be the same for both girls.

66. First gym: $y = 31x + 50$, second gym: $y = 20x + 42$; $\left(-\frac{8}{11}, \frac{302}{11}\right)$; second gym: it has a lower initial cost and a lower monthly cost.

3.5 Mixed Review

67. 3.6 **68.** 5.8 **69.** 6.4

70. Each number is decreasing by 5; -22.

71. Each number is twice the previous number; 64.

72. Each number is decreasing by 3; 89.

73. 98°, 82°. *Sample answer:* $\angle 2$ corresponds to the angle measuring 82° and $\angle 1$ is supplementary to $\angle 2$.

74. 64°, 64°. *Sample answer:* $\angle 1$ and the angle measuring 64° are vertical angles and $\angle 1$ and $\angle 2$ are corresponding angles.

75. 157°, 23°. *Sample answer:* $\angle 2$ and the angle measuring 157° are supplementary and $\angle 1$ and $\angle 2$ are consecutive interior angles.