Answers for Lesson 5-2 Exercises

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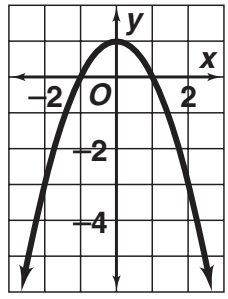

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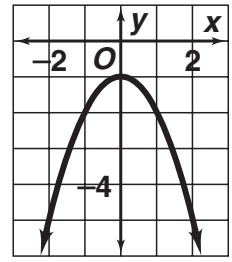

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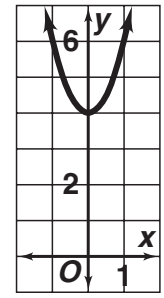

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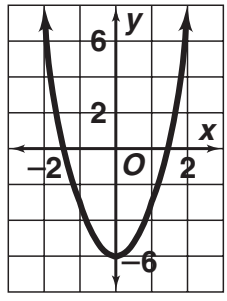

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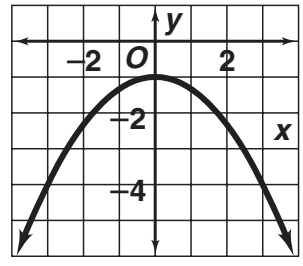

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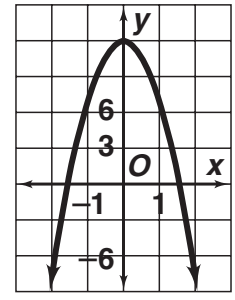

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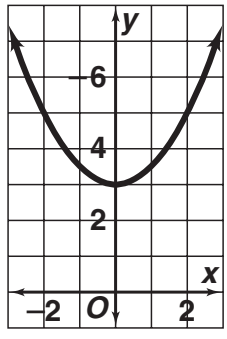

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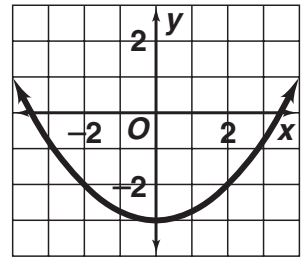

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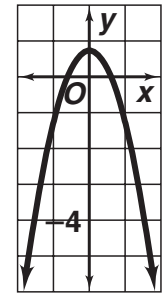

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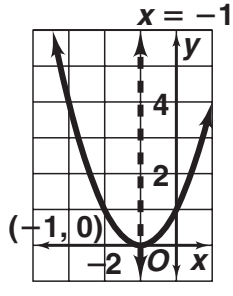

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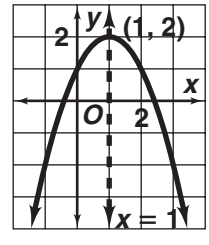

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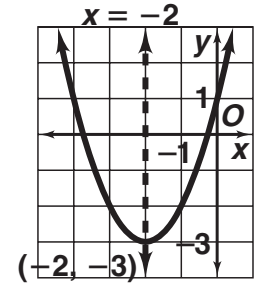

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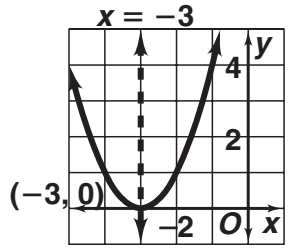

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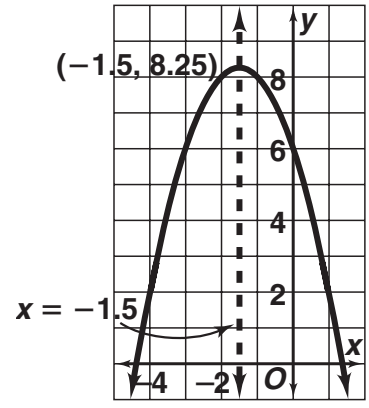

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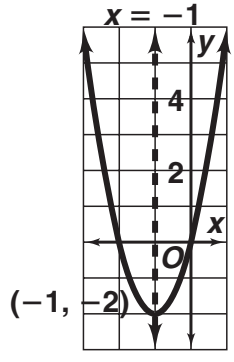

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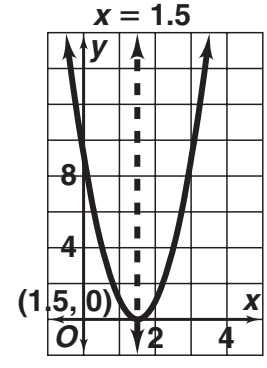

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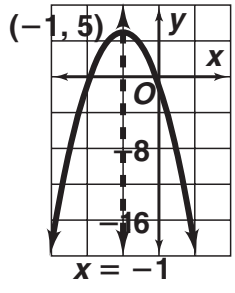

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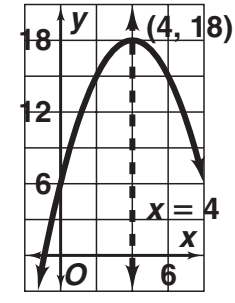

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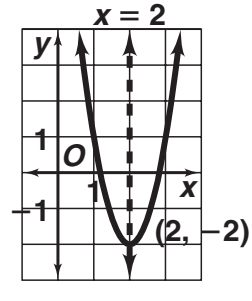

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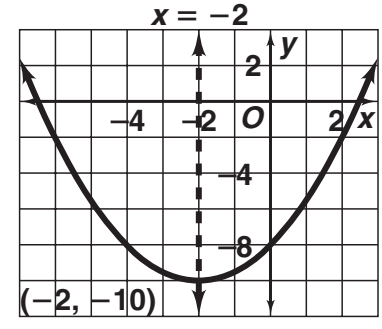

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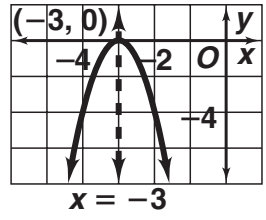
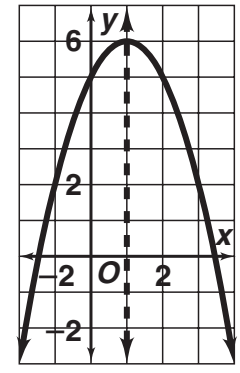
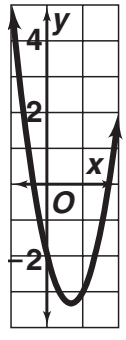
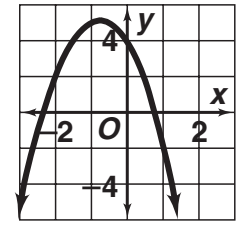
21. 

22. 

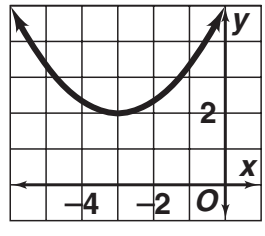
max, 6

23. 

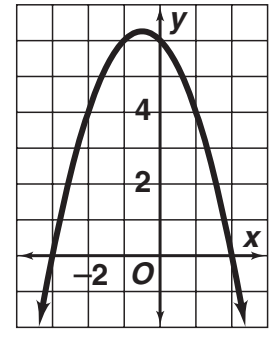
min, $-\frac{10}{3}$

24. 

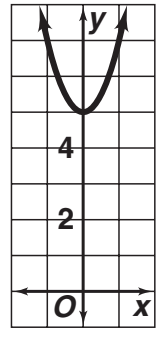
max, $\frac{41}{8}$

25. 

min, 2

26. 

max, $6\frac{1}{4}$

27. 

min, 5

28. \$10; \$13,500

29. 2 s; 64 ft

30. 1000 tires; \$20

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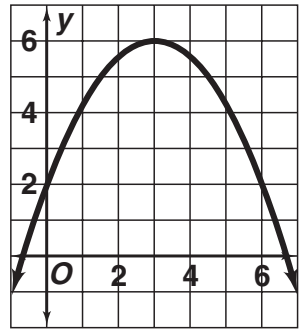
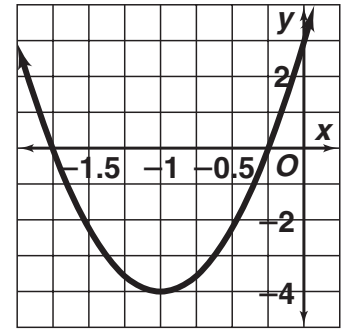
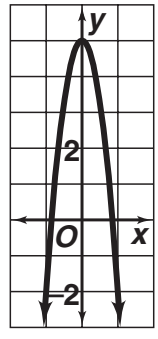
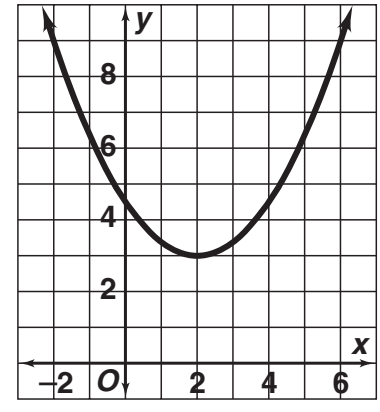
31. 

32. 

33. 

34. 

35. 13, 13; 169

36. $-5, 5; -25$

37. B

38. C

39. A

40. Answers may vary. Sample: $y = x^2 + 20x + 96$

41. 2.25 ft by 2.25 ft; 5.0625 ft^2

42. $y = -\frac{1}{10}x^2 + 10$

43. length = 9 cm, width = 9 cm

44. 5

45. -3

46. -2

47. 2

48. $y = \frac{1}{3}x^2 + 2$

49. $y = -4x^2 - 3$

50. $y = \frac{3}{4}x^2 - \frac{1}{2}$

51. $y = 10x^2 - 1$

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

53. $y = 6x^2 + 8$

54. **a.** \$20

b. \$6050

c. Check students' work.

55. B

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56. **a.** Check students' work.

b. 60 bricks by 60 bricks

57. $y = x^2 + 1$; up

58. $y = 5x^2 + 1$; up

59. $y = -\frac{1}{2}x^2 + 1$; down

60. $y = -\frac{1}{2}x^2 + 1$; down

61. $y = \frac{1}{3}x^2 + 1$; up

62. $y = -\frac{1}{5}x^2 + 1$; down

63. $y = -\frac{1}{4}x^2 + 1$; down

64. $y = -\frac{1}{12}x^2 + 1$; down

65. **a.** $y = \frac{1}{14{,}400}x^2$

b. $y = \frac{1}{14{,}400}x^2 - \frac{1}{20}x$

c. $y = \frac{1}{14{,}400}x^2 + \frac{1}{20}x$

66. **a.** Check students' work.

b. Answers may vary. Sample: The widths of $y = ax^2 + bx + c$ and $y = -ax^2 + bx + c$ are the same. As $|a|$ increases, the width of $y = ax^2 + bx + c$ and $y = -ax^2 + bx + c$ decrease.

67. $-6, 24$

68. $1, 2$

69. $3, -12$

70. $-\frac{2}{9}, -\frac{4}{3}$

71. $10\frac{2}{3}$ square units

72. $10\frac{2}{3}$ square units

73. $10\frac{2}{3}$ square units

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