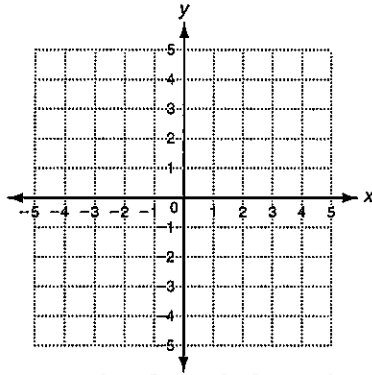


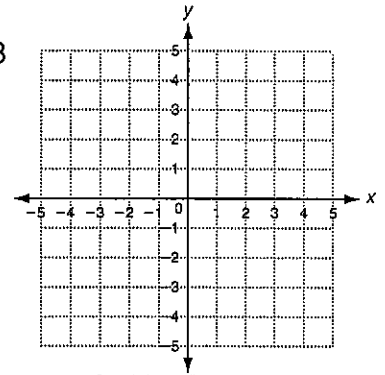
Chapter 6 Review #2 (Holt)

Graph each quadratic function using your calculator.

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



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



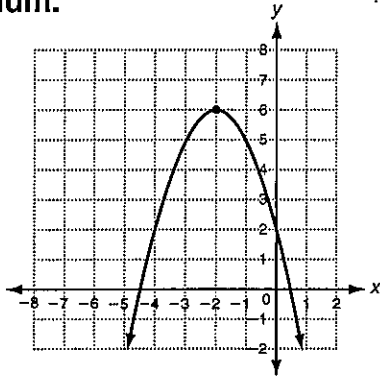
Tell whether the graph of each function opens upward or downward. Explain.

3. $y = -3x^2 + 5$

4. $-x^2 + y = 8$

For each parabola, a) identify the vertex; b) tell whether it has a minimum or maximum.

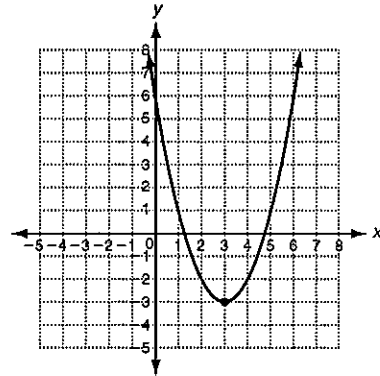
5.



a. _____

b. _____

6.

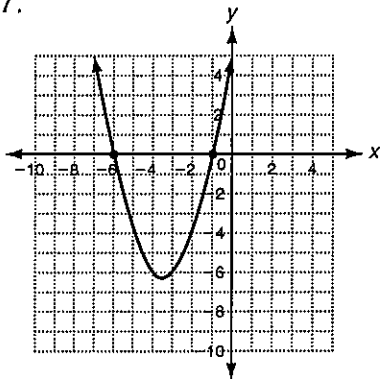


a. _____

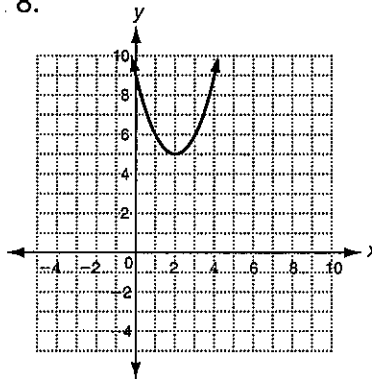
b. _____

Find the zeros of each quadratic function by looking at its graph.

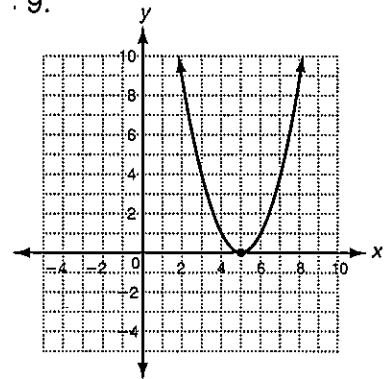
7.



8.



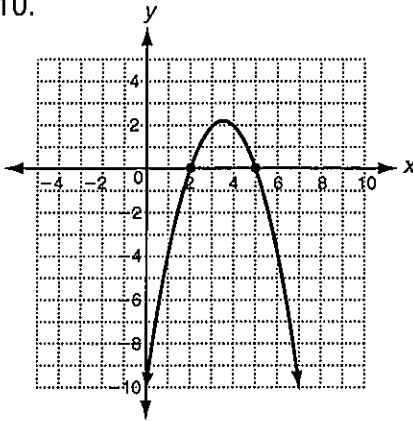
9.



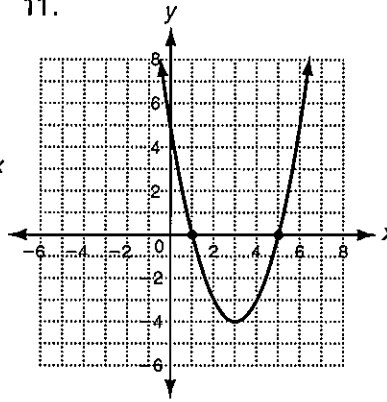
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Find the axis of symmetry of each parabola.

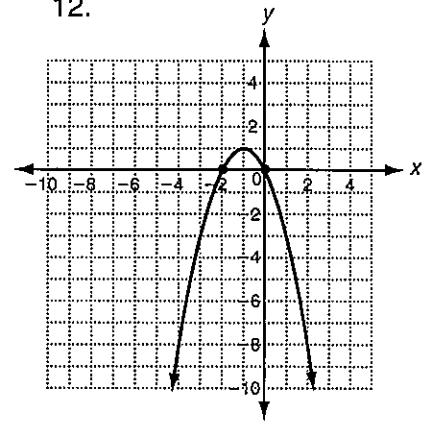
10.



11.



12.



For each quadratic function, find the axis of symmetry of its graph.

13. $y = 3x^2 - 6x + 4$

14. $y = -x^2 + 4x$

15. $y = 4x^2 + \frac{1}{2}x + 3$

Find the vertex of each parabola. Then, write the equation in vertex form.

16. $y = 3x^2 - 6x - 2$

17. $y = 3x^2 + 12x - 10$

18. $y = x^2 + 2x - 35$

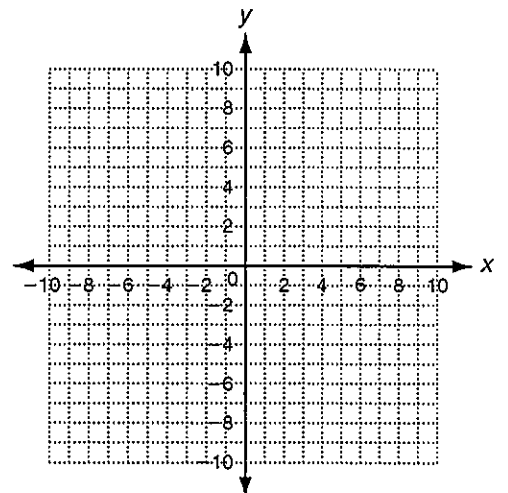
Graph each quadratic function.

19. $y = x^2 + 4x - 4$

axis of symmetry: _____

vertex: _____

vertex form: _____



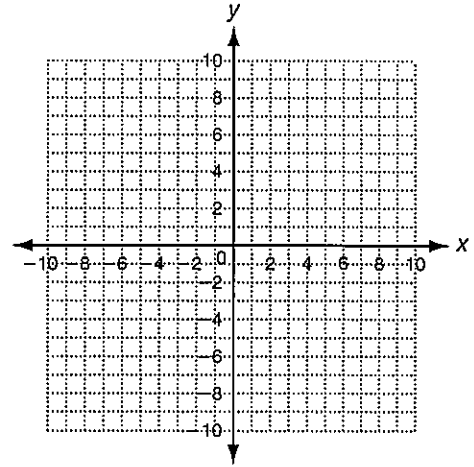
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20. $y + 2x^2 - 4x - 6 = 0$

axis of symmetry: _____

vertex: _____

vertex form: _____



Order the functions from narrowest graph to widest.

21. $f(x) = 3x^2; g(x) = -2x^2$

22. $f(x) = \frac{1}{2}x^2; g(x) = 5x^2; h(x) = x^2$

23. $f(x) = 4x^2; g(x) = -3x^2; h(x) = \frac{1}{4}x^2$

24. $f(x) = 0.5x^2; g(x) = \frac{1}{4}x^2; h(x) = \frac{1}{3}x^2$

Give the transformation of each function compared to the graph of $y = x^2$.

25. $y = (x - 3)^2 + 1$

26. $y = (x + 3)^2 - 4$

27. $y = x^2 + 7$

Solve each equation.

28. $3x^2 = 108$

29. $100 = 4x^2$

30. $x^2 + 7 = 71$

31. $49x^2 - 64 = 0$

32. $-2x^2 = -162$

33. $9x^2 + 100 = 0$

Name: _____ Date: _____ Hour: _____

34. The height of a skydiver jumping out of an airplane is given by $h = -16t^2 + 3200$. How long will it take the skydiver to reach the ground? Round to the nearest tenth of a second. _____

Solve to find the roots.

35. $x^2 + x = 12$

36. $4x^2 - 17x - 15 = 0$

37. $2x^2 - 5x = 3$

38. $3x^2 + 14x - 5 = 0$

Find the number of solutions to each equation.

39. $x^2 + 25 = 0$

40. $x^2 - 11x + 28 = 0$

41. $x^2 + 8x + 16 = 0$

42. A baseball player hits a ball with a velocity of 45 m/s from a height of 1 meter.

a. Write an equation to represent this situation. _____

b. Find the height of the ball after 2 seconds. _____

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Write each equation in standard form.

43. $y + 6 = (x + 3)^2$

44. $y = 2(x + 3)^2 - 5$

Expand and simplify.

45. $(x + 5)^2 + 2$

46. $(x + 5)^2 - 3$

47. If a 5" by 7" photo is framed with a width of w around the photo, find the area of photo and frame.

48. A decorator is wallpapering a wall that is 12 feet by 11 feet. If the decorator needs to use the exact amount of wallpaper from that wall to wallpaper another wall in the shape of a square, what would the side length of the square wall have to be?