

LESSON 9.2 Practice B

For use with the lesson "Graph $y = ax^2 + bx + c$ "

Identify the values of a , b , and c in the quadratic function.

- 1. $y = 6x^2 + 3x + 5$
- 2. $y = \frac{3}{2}x^2 - x + 8$
- 3. $y = 7x^2 - 3x - 1$
- 4. $y = -2x^2 + 9x$
- 5. $y = \frac{3}{4}x^2 - 10$
- 6. $y = -8x^2 + 3x - 7$

Tell whether the graph opens upward or downward. Then find the axis of symmetry and vertex of the graph of the function.

- 7. $y = x^2 - 5$
- 8. $y = -x^2 + 9$
- 9. $y = -2x^2 + 6x + 7$
- 10. $y = 3x^2 - 12x + 1$
- 11. $y = 3x^2 + 6x - 2$
- 12. $y = -2x^2 + 7x - 21$
- 13. $y = \frac{1}{2}x^2 + 5x - 4$
- 14. $y = -\frac{1}{4}x^2 - 24$
- 15. $y = -3x^2 + 9x - 8$
- 16. $y = 3x^2 - 2x + 3$
- 17. $y = -2x^2 + 7x + 1$
- 18. $y = 3x^2 + 2x - 5$

Find the vertex of the graph of the function. Make a table of values using x -values to the left and right of the vertex.

19. $y = x^2 - 10x + 3$

x	?	?	?	?	?
y	?	?	?	?	?

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

x	?	?	?	?	?
y	?	?	?	?	?

21. $y = \frac{1}{2}x^2 - x + 7$

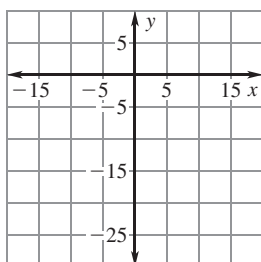
x	?	?	?	?	?
y	?	?	?	?	?

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

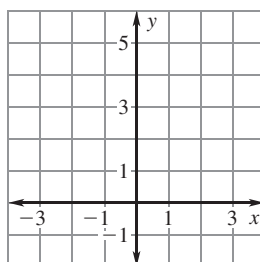
x	?	?	?	?	?
y	?	?	?	?	?

Graph the function. Label the vertex and axis of symmetry.

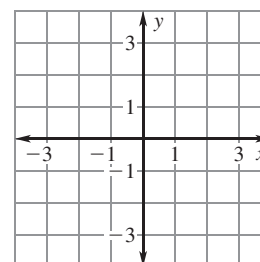
23. $y = -x^2 - 10$



24. $y = 2x^2 + 3$



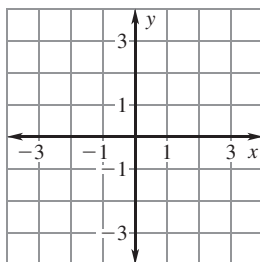
25. $y = -2x^2 + 2x + 1$



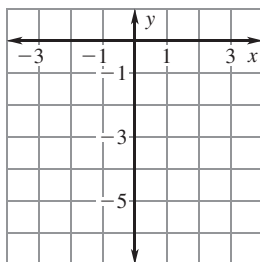
LESSON
9.2

Practice B *continued*
For use with the lesson "Graph $y = ax^2 + bx + c$ "

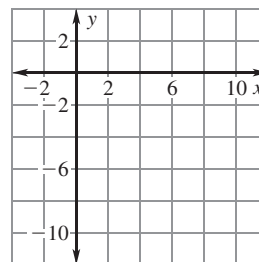
26. $y = 5x^2 + 2x$



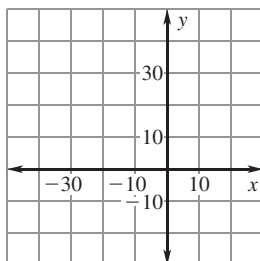
27. $y = -2x^2 + x - 4$



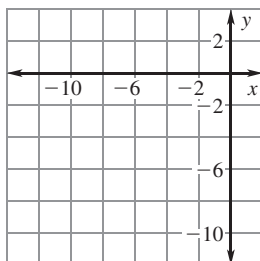
28. $y = x^2 - 8x + 5$



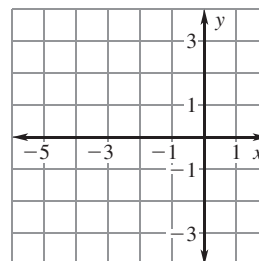
29. $y = -\frac{1}{2}x^2 - 8x + 3$



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



31. $y = -\frac{3}{4}x^2 - 2x + 2$



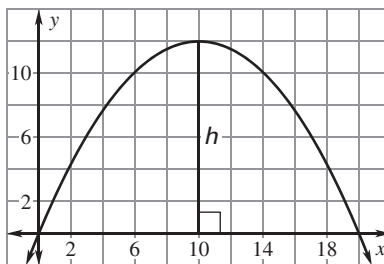
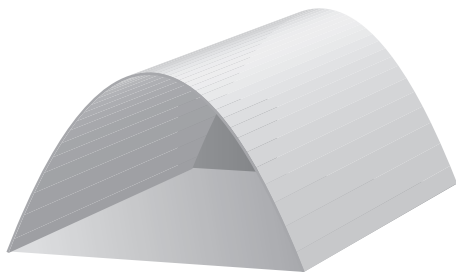
Tell whether the function has a *minimum value* or a *maximum value*. Then find the minimum or maximum value.

32. $f(x) = 8x^2 - 40$

33. $f(x) = -5x^2 + 10x - 2$

34. $f(x) = 8x^2 - 4x + 4$

35. **Storage Building** The storage building shown can be modeled by the graph of the function $y = -0.12x^2 + 2.4x$ where x and y are measured in feet. What is the height h at the highest point of the building as shown in the diagram?



36. **Velvet Rope** A parabola is formed by a piece of velvet rope found around a museum display as shown. This parabola can be modeled by the graph of the function $y = \frac{4}{225}x^2 - \frac{16}{15}x + 40$ where x and y are measured in inches and y represents the number of inches the parabola is above the ground. How far above the ground is the lowest point on the rope?

