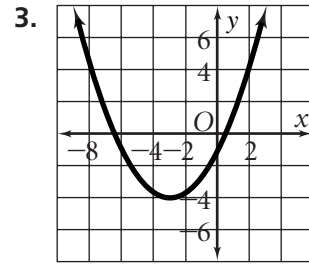
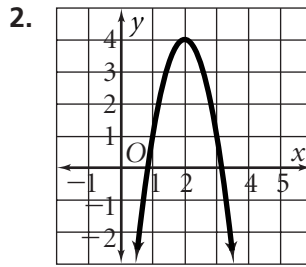
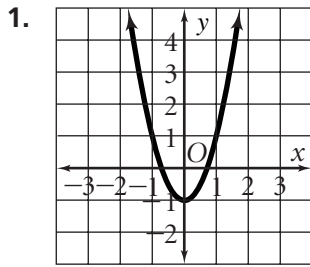


Practice 9-1

Exploring Quadratic Graphs

Identify the vertex of each graph. Tell whether it is a minimum or a maximum.



Order each group of quadratic functions from widest to narrowest graph.

4. $y = x^2, y = 5x^2, y = 3x^2$

5. $y = -8x^2, y = \frac{1}{2}x^2, y = -x^2$

6. $y = 5x^2, y = -4x^2, y = 2x^2$

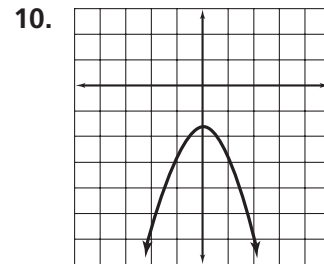
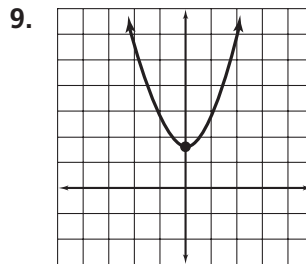
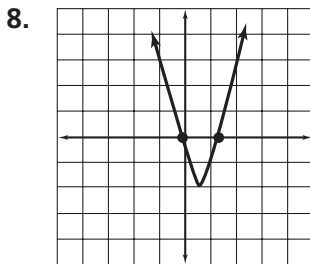
7. $y = 6x^2, y = -7x^2, y = 4x^2$

Match each graph with its function.

A. $f(x) = 3x^2 + 5$

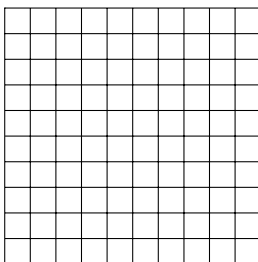
B. $f(x) = -3x^2 - 5$

C. $f(x) = 3x^2 - 5x$

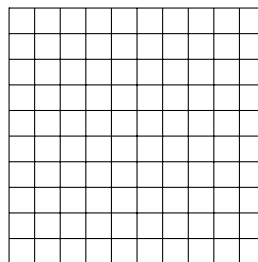


Graph each function.

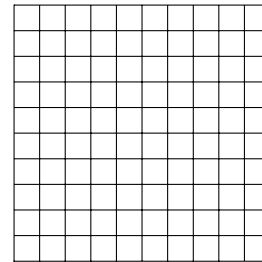
11. $y = -x^2 - 4$



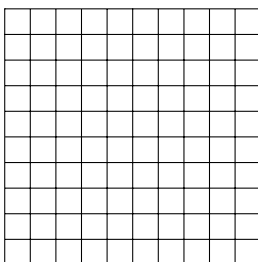
12. $y = 2x^2 - 2$



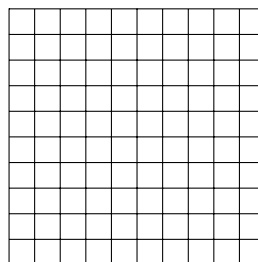
13. $f(x) = 2x^2 + 3$



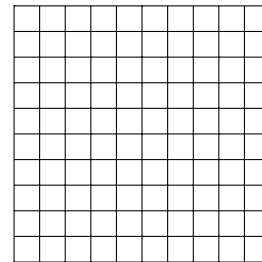
14. $f(x) = 5x^2 + 8$



15. $y = 5x^2 - 8$



16. $f(x) = -3.5x^2 - 4$



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Practice 9-2

Quadratic Functions

Find the equation of the axis of symmetry and the coordinates of the vertex of the graph of each function. Find the domain and range.

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

2. $y = x^2 + 12x - 9$

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

4. $y = 3x^2 + 18x + 9$

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

6. $y = 16x - 4x^2$

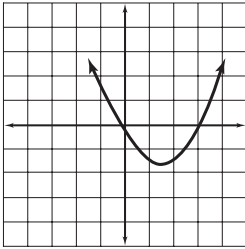
Match each graph with its function.

A. $f(x) = -x^2 - 3x$

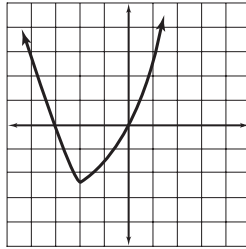
B. $f(x) = x^2 - 3x$

C. $x^2 + 3x$

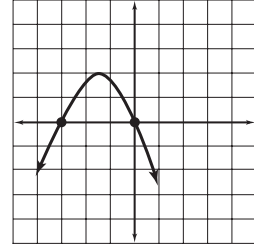
7.



8.

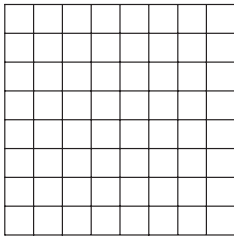


9.

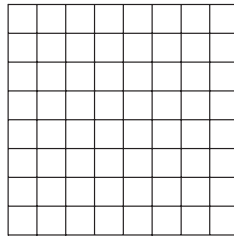


Graph each function. Label the axis of symmetry and the vertex.

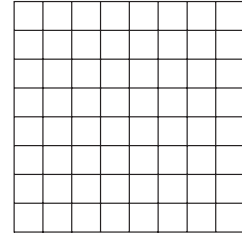
10. $y = x^2 - 6x + 4$



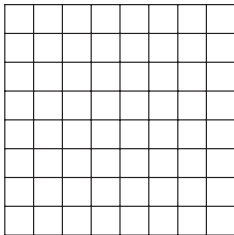
11. $y = x^2 + 4x - 1$



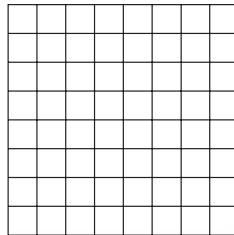
12. $y = x^2 + 2x + 1$



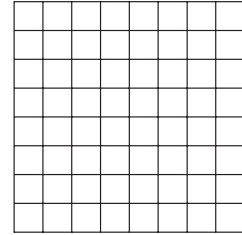
13. $y = -2x^2 - 8x + 5$



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

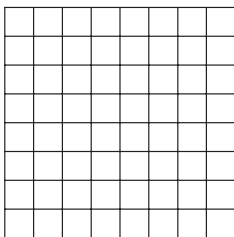


15. $y = -3x^2 + 6$

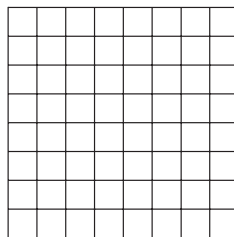


Graph each quadratic inequality.

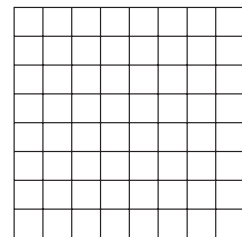
16. $y > x^2 + 1$



17. $y \geq x^2 - 4$



18. $y > x^2 + 6x + 3$



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