

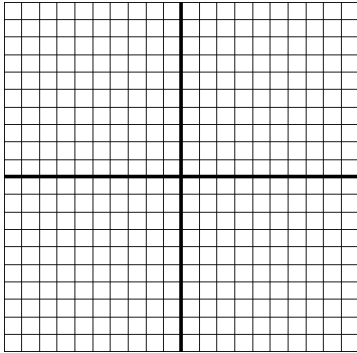
Section 2.4 WS

Name \_\_\_\_\_

Graph the quadratic function, then state the axis of symmetry.

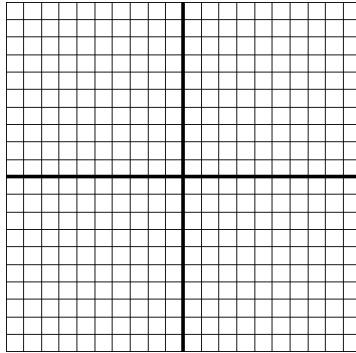
1.  $f(x) = x^2 - 3$

Axis of Symmetry: \_\_\_\_\_



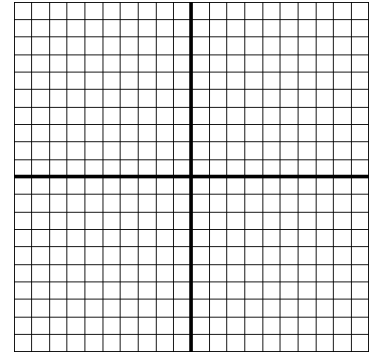
2.  $f(x) = (x+2)^2 + 1$

Axis of Symmetry: \_\_\_\_\_



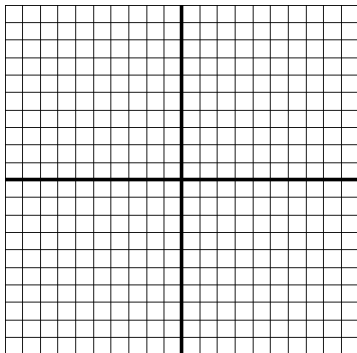
3.  $f(x) = 2(x-3)^2 + 4$

Axis of Symmetry: \_\_\_\_\_



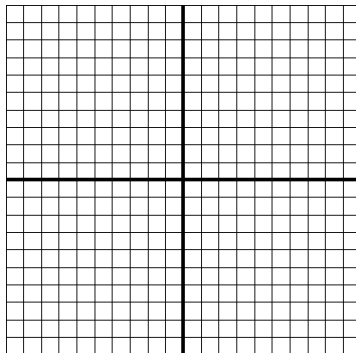
4.  $g(x) = -\frac{1}{2}x^2 + 2$

Axis of Symmetry: \_\_\_\_\_



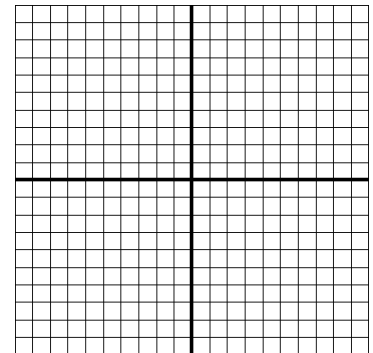
5.  $f(x) = x^2 + 4x + 1$

Axis of Symmetry: \_\_\_\_\_



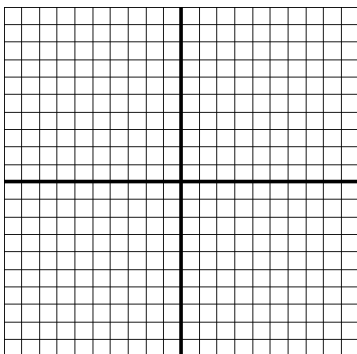
6.  $h(x) = -2x^2 - 4x + 5$

Axis of Symmetry: \_\_\_\_\_



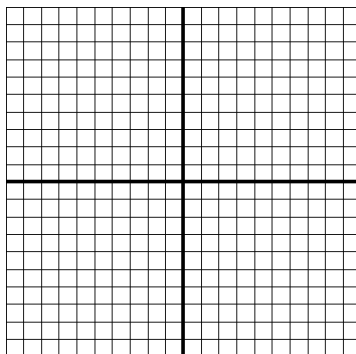
7.  $g(x) = 3(x-1)^2 - 5$

Axis of Symmetry: \_\_\_\_\_



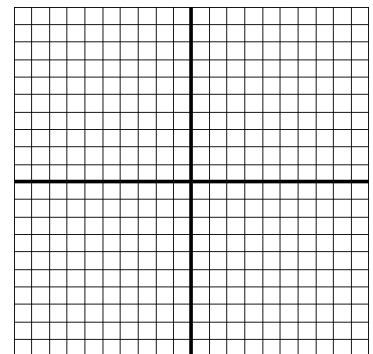
8.  $f(x) = x^2 - 8x + 5$

Axis of Symmetry: \_\_\_\_\_



9.  $h(x) = -2x^2 + 8x - 6$

Axis of Symmetry: \_\_\_\_\_



**Write the quadratic function in vertex form.**

10.  $h(x) = x^2 - 10x$

11.  $f(x) = x^2 - 10$

12.  $g(x) = -x^2 + 6x + 1$

13.  $h(x) = 2x^2 - 3x + 7$

**Find the range of the quadratic function.**

14.  $f(x) = x^2 - 2x - 1$

15.  $h(x) = -x^2 - 6x - 2$

**Find the zeros of  $f$  and the  $x$ -intercepts of the graph of  $f$ .**

16.  $f(x) = x^2 + 2x - 24$

17.  $h(x) = 2x^2 + 11x + 12$

**Find the minimum or maximum value of the function. State whether this value is a minimum or a maximum.**

18.  $g(x) = x^2 + 8x$

19.  $f(x) = -x^2 + 6x + 2$

20.  $f(x) = 2x^2 + 3x + 1$

21.  $g(x) = 5x^2 - 11$