

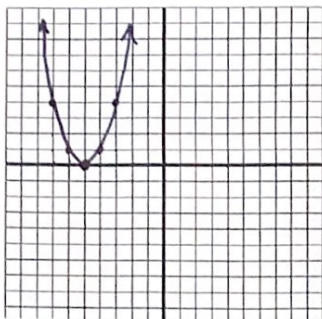
Section 2.4 WS 2

Name KEY

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

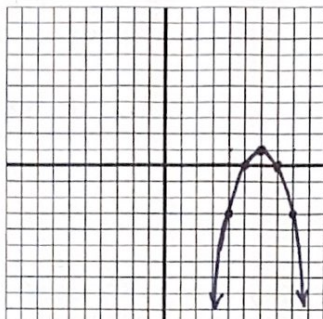
1. $f(x) = (x+5)^2$ $V: (-5, 0)$

Axis of Symmetry: $X = -5$



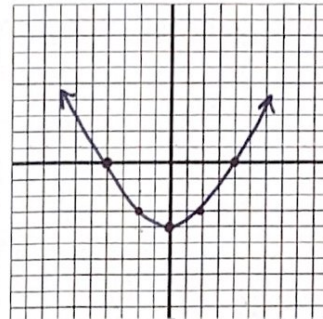
2. $f(x) = -(x-6)^2 + 1$ $(6, 1)$

Axis of Symmetry: $X = 6$



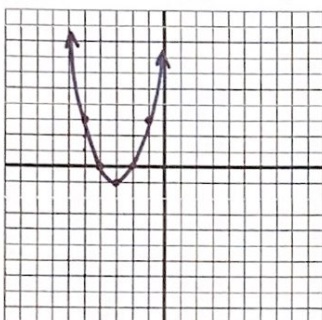
3. $f(x) = \frac{1}{4}x^2 - 4$ $(0, -4)$

Axis of Symmetry: $X = 0$



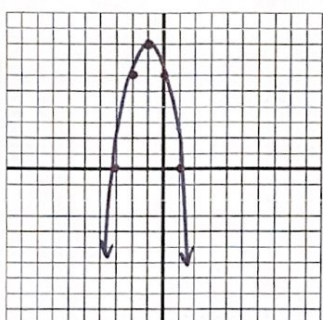
4. $g(x) = x^2 + 6x + 8$ $V: (-3, -1)$

Axis of Symmetry: $X = -3$



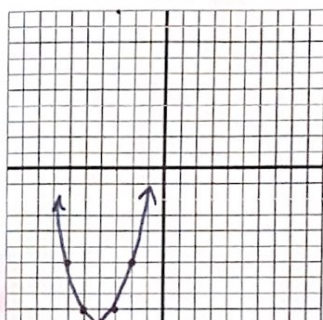
5. $f(x) = -2x^2 - 4x + 6$ $V: (-1, 8)$

Axis of Symmetry: $X = -1$



6. $h(x) = x^2 + 6x - 1$ $V: (-3, -10)$

Axis of Symmetry: $X = -3$



Write the quadratic function in vertex form.

7. $h(t) = t^2 - 6t$

$a = 1$
 $V: (3, -9)$

$h(t) = (t-3)^2 - 9$

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

$f(x) = x^2 - 4$

9. $g(t) = -t^2 + 6t + 1$

$a = -1$
 $V: (3, 10)$

$g(t) = -(t-3)^2 + 10$

10. $h(x) = 3x^2 - 10x + 2$

$a = 3$
 $x = \frac{10}{6} = \frac{5}{3}$
 $h(x) = 3\left(\frac{5}{3}\right)^2 - 10\left(\frac{5}{3}\right) + 2$
 $h(x) = \frac{-19}{3}$

$h(x) = 3\left(x - \frac{5}{3}\right)^2 - \frac{19}{3}$

Find the range of the quadratic function.

11. $f(x) = -x^2 + 6x + 7$

$\{y \mid y \leq 16\}$

12. $h(x) = 2x^2 - 9x + 10$

$\{y \mid y \geq \frac{1}{8}\}$

