

Vertex of a Quadratic Function

For a given quadratic $y = ax^2 + bx + c$, the vertex (h, k) is found by computing $h = \frac{-b}{2a}$ and then evaluating y at h to find k .

Example: $y = x^2 + 2x - 8$

$$h = \frac{-b}{2a} = \frac{-2}{2(1)} = -1$$

$$k = (-1)^2 + 2(-1) - 8 = -9$$

The vertex is $(-1, -9)$.

Line of symmetry is $x = h$.

$$x = -1$$

