

EXAMPLE 1**Graph a quadratic function in vertex form**

Graph $y = -\frac{1}{4}(x + 2)^2 + 5$.

SOLUTION

STEP 1 Identify the constants

$$a = -\frac{1}{4}, h = -2, \text{ and } k = 5.$$

Because $a < 0$, the parabola opens down.

STEP 2 Plot the vertex

$(h, k) = (-2, 5)$ and draw the axis of symmetry $x = -2$.

