

Example 7.

Graph the following quadratic function.

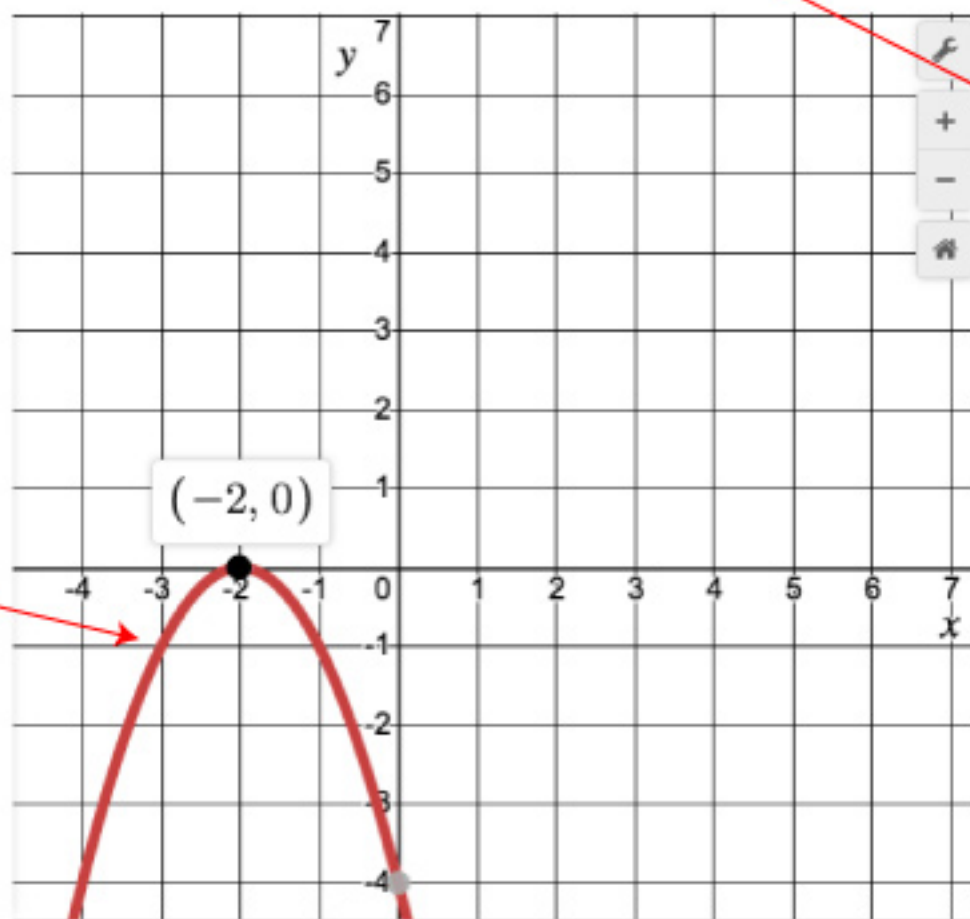
$$y = -(x + 2)^2 + 0$$

Solution.

Quadratic in vertex form:

$$y = a(x - h)^2 + k$$

Because in this equation $a < 0$, the graph of the parabola opens down.



The coordinates of the vertex align with the values shown in the equation. Because of the 0 y-coordinate, the function can be rewritten this way, as a perfect square.

$$y = -(x + 2)^2$$