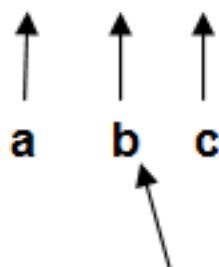Using a table of values, graph the following function. Identify the zeros and vertex.

$$f(x) = -1/2x^2 - x + 4$$

Step 1: Find the x coordinate for the vertex.

$$f(x) = -1/2x^2 - x + 4$$

a   b   c

**The coefficient of x for the b term is -1. (1 times x is just x, so we don't write the 1, but you must know it's there for this formula! Since the equation says −x, we must think of it as -1)

$a = -1/2$ $b = -1$ $c = 4$

The opposite of -1 is positive 1.

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

The x coordinate of the vertex is -1.