

## Zeros of a Quadratic Function

are values of  $x$  such that  $f(x) = 0$ 

Given Quadratic Function

Create Quadratic Equation



Quadratic Equations can be solved by...

## Zeros of a Quadratic Function

are values of  $x$  such that  $f(x) = 0$ 

Given Quadratic Function

$$f(x) = ax^2 + bx + c$$

Create Quadratic Equation

$$0 = ax^2 + bx + c$$

$$a = ? \quad b = ? \quad c = ?$$

$$x = \underline{\hspace{2cm}}$$

Find the zeros of the following function:

$$f(x) = x^2 + 2x - 8$$

Find the zeros of the following function:

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

Find the zeros of the following function:

$$f(x) = 3x^2 - x + 6$$

### Zeros of a Quadratic Function

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Given Quadratic Function

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Create Quadratic Equation

$$0 = ax^2 + bx + c$$

$a = ?$     $b = ?$     $c = ?$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

If  $b^2 - 4ac < 0$ ,  
 $f(x)$  has no real zeros

If  $b^2 - 4ac \geq 0$ ,  
 $f(x)$  has at least one real zero