

The Zeros and Roots of a Quadratic Function

Name _____

Date _____ Period _____

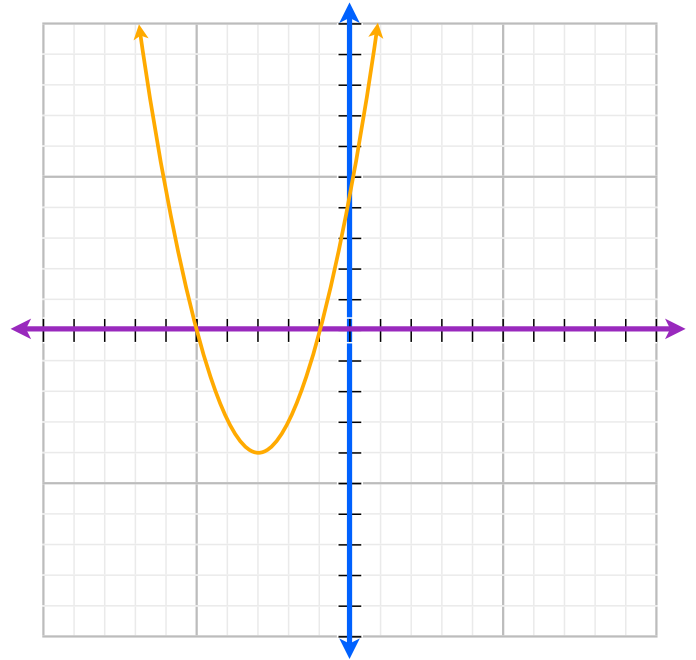
Given the following quadratic function...

$$y = x^2 + 6x + 5$$

The zeros or roots of a quadratic function occur at the x -intercepts of the parabola

x -intercepts

Zeros or roots when



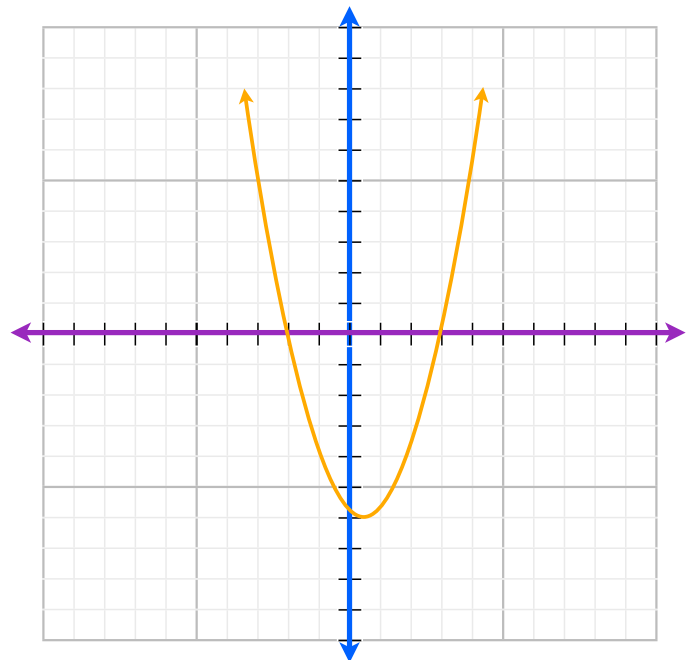
Given the following quadratic function...

$$y = x^2 - x + 6$$

The zeros or roots of a quadratic function occur at the x -intercepts of the parabola

x -intercepts

Zeros or roots when

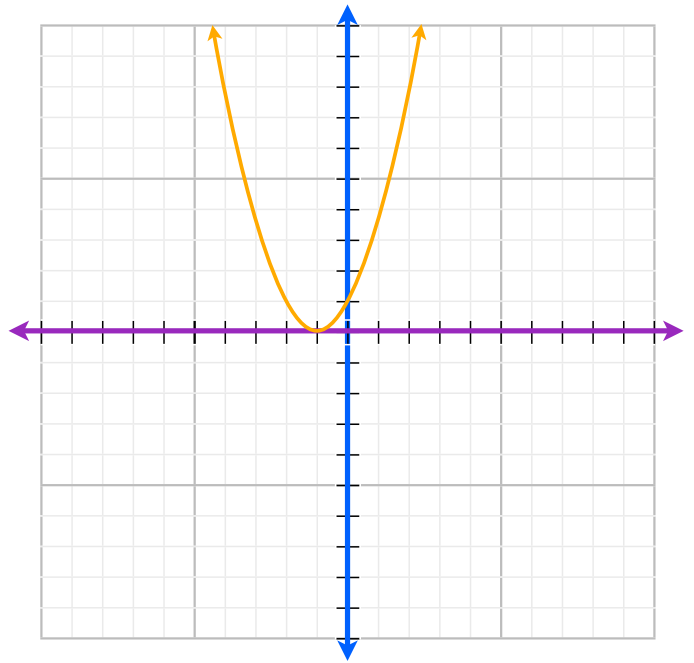


Given the following quadratic function...

$$y = x^2 + 2x + 1$$

The zeros or roots of a quadratic function occur at the x -intercepts of the parabola
 x -intercepts

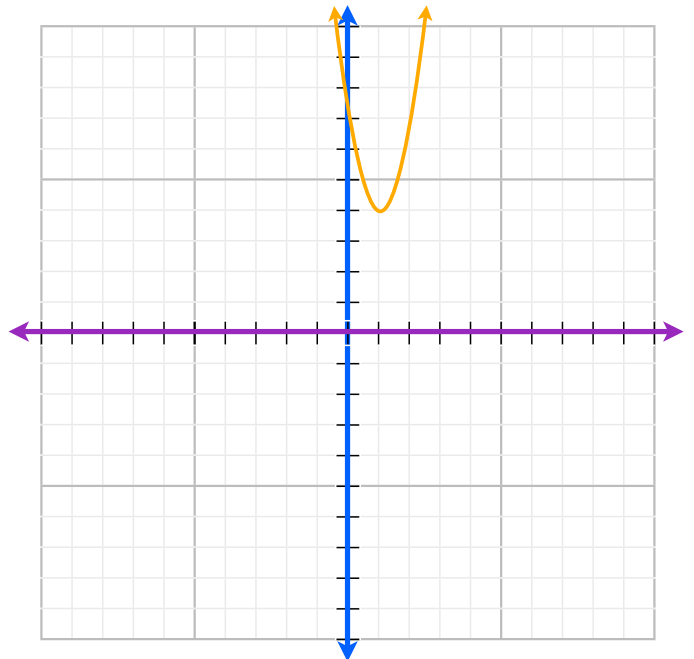
Zero or root when



Given the following quadratic function...

$$y = 2x^2 - 3x + 5$$

The zeros or roots of a quadratic function occur at the x -intercepts of the parabola



Given the following quadratic function...

$$y = 2x^2 - 3x + 5$$

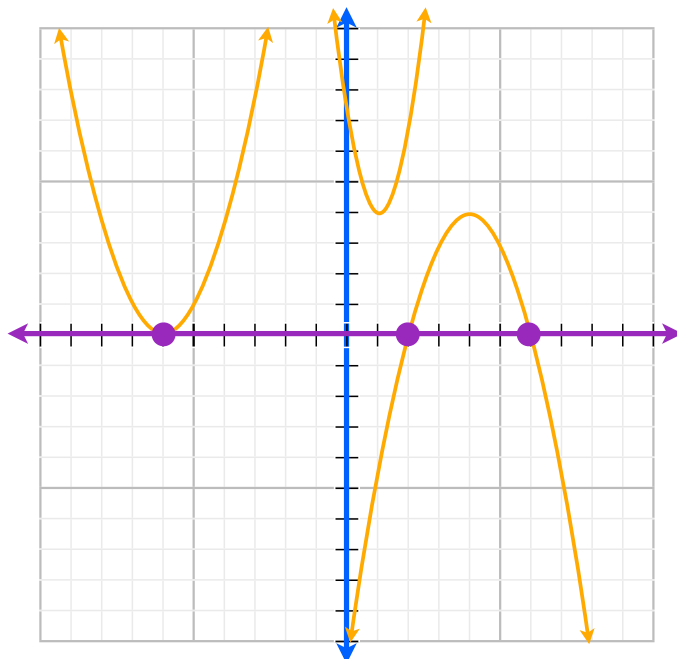
No x -intercepts No zeros or roots

$$y = x^2 - 8x + 12$$

Two x -intercepts Two zeros or roots

$$y = x^2 + 12x + 36$$

One x -intercept One zero or root



Given the following quadratic function... and create a quadratic equation

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

set $y = 0$

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

Solving a quadratic equation for x will give us the zeros or roots

Four methods of solving for x

1. Take the Square Root of both sides
2. Factor and use the Zero Product Rule
3. Use the Quadratic Formula
4. Use Completing the Square