

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

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

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

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

Find the complex zeros of the following function:

$$f(x) = x^2 + 2x + 5$$

Find the complex zeros of the following function:

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

Find the complex zeros of the following function:

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

If $b^2 - 4ac > 0$,

$f(x)$ has two real zeros.

If $b^2 - 4ac = 0$,

$f(x)$ has one real zero
double zero

If $b^2 - 4ac < 0$,

$f(x)$ has two complex non-real zeros
conjugates of each other

Determine the nature of the zeros of the following functions.

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

Find the complex zeros of the following function:

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

Discriminant

If $b^2 - 4ac > 0$, $f(x)$ has two real zeros.
 If $b^2 - 4ac = 0$, $f(x)$ has one real zero double zero
 If $b^2 - 4ac < 0$, $f(x)$ has two complex non-real zeros conjugates of each other

Determine the nature of the zeros of the following functions.

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

Find the complex zeros of the following function:

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

Discriminant

If $b^2 - 4ac > 0$, $f(x)$ has two real zeros.
 If $b^2 - 4ac = 0$, $f(x)$ has one real zero double zero
 If $b^2 - 4ac < 0$, $f(x)$ has two complex non-real zeros conjugates of each other

Determine the nature of the zeros of the following functions.

$$f(x) = x^2 + 6x + 9$$

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

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

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

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