

5.2

Topic: The Quadratic Formula

How can you solve a quadratic equation and apply it with real world applications?

Jun 10-9:15 AM

The Quadratic Formula

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

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

Nov 8-3:44 PM

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

Step 1: Find A, B, C

Step 2: Find the discriminant

Step 3: Plug in discriminant and simplify

Dec 16-8:39 AM

Solve the Equation:

$$x^2 - 5x - 14 = 0 \quad \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$a = 1$$

$$b = -5 \quad (-5)^2 - 4(1)(-14)$$

$$c = -14 \quad 81$$

$$\frac{-(-5) \pm \sqrt{81}}{2(1)}$$

$$\frac{5 \pm 9}{2}$$

$$\frac{5+9}{2} \quad \frac{5-9}{2}$$

$$x = 7 \quad x = -2$$

Dec 16-8:40 AM

Solve the Equation:

$$x^2 - 3x + 2 = 0 \quad \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$a = 1 \quad (-3)^2 - 4(1)(2)$$

$$b = -3$$

$$c = 2$$

$$\frac{-(-3) \pm \sqrt{1}}{2(1)}$$

$$\frac{3 \pm 1}{2}$$

$$\frac{3+1}{2} \quad \frac{3-1}{2}$$

$$x = 2 \quad x = 1$$

Feb 8-8:57 AM

Solve the Equation:

$$7x^2 = 2x + 9$$

$$0 = 2x + 9 - 7x^2$$

$$a = -7 \quad \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$b = 2 \quad 2^2 - 4(-7)(9)$$

$$c = 9 \quad 256$$

$$\frac{-2 \pm \sqrt{256}}{2(-7)}$$

$$\frac{-2 \pm 16}{-14}$$

$$\frac{-2+16}{-14} \quad \frac{-2-16}{-14}$$

$$x = -1 \quad 1.28$$

Dec 16-8:42 AM

$$x = 1 \quad x = 7$$

$$y = -(x-1)(x-7)$$

$$y = x^2 - 7x - 1x + 7$$

$$= (x^2 - 8x + 7)$$

$$y =$$

$$x = -3 \quad x = -7$$

Feb 9-12:27 PM

Solve the Equation:

$$2x^2 - 8x = -8 \quad \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$2x^2 - 8x + 8 = 0$$

$$a = 2 \quad (-8)^2 - 4(2)(8)$$

$$b = -8$$

$$c = 8$$

$$x = \frac{8 \pm \sqrt{0}}{2(2)}$$

$$x = \frac{8 \pm 0}{4}$$

$$x = \frac{8}{4}$$

$$x = 2$$

Dec 16-8:52 AM

Solve the Equation:

$$x^2 - 1 = -6x$$

$$x^2 + 6x - 1 = 0$$

$$a = 1$$
$$b = 6$$
$$c = -1$$

$$b^2 - 4ac = 4(1)(-1)$$

$$40$$

$$x = \frac{-6 \pm \sqrt{40}}{2(1)}$$

$$x = \frac{-6 \pm 6.3245}{2}$$

$$.1623$$

$$-6.1623$$

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

Feb 8-9:13 AM