

Quadratic formula:

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

Then:

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

When to use the quadratic formula:

Solve Quadratic in Standard Form,
Equal to Zero

How to use the quadratic formula:

Identify a, b, c

Substitute

Evaluate

Two Solutions

	$8x^2 + 6x + 1 = 0$
Identify $a, b,$ and c	$a = 8$ $b = 6$ $c = 1$
Substitute into the quadratic formula	$\frac{-6 \pm \sqrt{6^2 - 4(8)(1)}}{2(8)}$
Evaluate.	$\frac{-6 \pm \sqrt{36 - 32}}{16}$ $\frac{-6 \pm \sqrt{4}}{16}$ $\frac{-6 \pm 2}{16}$ $\frac{-6 + 2}{16} = \frac{-4}{16}$ $\frac{-6 - 2}{16} = \frac{-8}{16}$
Two solutions!	$x = \frac{-8}{16} \quad x = \frac{-4}{16}$

Remember, the quadratic formula states that:

$$\text{If } ax^2 + bx + c = 0, \text{ then } x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

	$2x^2 - 7x + 3 = 0$
Identify a , b , and c	$a =$ $b =$ $c =$
Substitute into the quadratic formula	
Evaluate.	
Two solutions!	