

September 1, 2017

$$\boxed{2}x^2 + \boxed{1}x - \boxed{3} = 0$$

$b^2 - 4ac$   
 $(1)^2 - 4(2)(-3)$   
 $1 - 8(-3)$   
 $1 + 24$   
 $25 \rightarrow \sqrt{25} = 5$

$(x+3)(x-1) = 0$   
 $\textcircled{1} 2x+3=0$   
 $2x = -3$   
 $x = -\frac{3}{2}$   
 $\textcircled{2} x-1=0$   
 $x = 1$

F:  $2x^2$  ✓  
 O:  $-2x$  ✓  
 I:  $3x$  ✓  
 L:  $-3$  ✓

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Ways to Solve a Quadratic

\* Note: generally you should set it equal to zero.

① Factoring:  $ax^2 = 0$

\* only if the discriminant is a perfect square.

② Square Root Property

a.)  $x^2 - 4 = 0$

$$\sqrt{x^2} = \pm \sqrt{4}$$

$$x = \pm 2$$

b.)  $\sqrt{(x-5)^2} = \pm \sqrt{0}$

$$x - 5 = 0$$

$$x = 5$$

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③ Quadratic Formula

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

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The "Discriminate"

$$b^2 - 4ac$$

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