

Quadratic Formula

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

1) $x^2 - 2x - 15 = 0$ *write in standard form
 $a=1$ $b=-2$ $c=-15$ $ax^2 + bx + c = 0$

$$x = \frac{-(-2) \pm \sqrt{(-2)^2 - 4(1)(-15)}}{2(1)} \quad \text{*ALWAYS use ()}$$

$$x = \frac{2 \pm \sqrt{4 - 4(1)(-15)}}{2(1)} \rightarrow x = \frac{2 \pm \sqrt{4 + 60}}{2} \rightarrow \frac{2 \pm \sqrt{64}}{2}$$

$$x = \frac{2 \pm \sqrt{64}}{2} \rightarrow \frac{2 \pm 8}{2}$$

$$\begin{array}{cc} \swarrow & \searrow \\ \frac{2+8}{2} & \frac{2-8}{2} \\ \boxed{10} & \boxed{-3} \end{array}$$