

Solving Quadratics

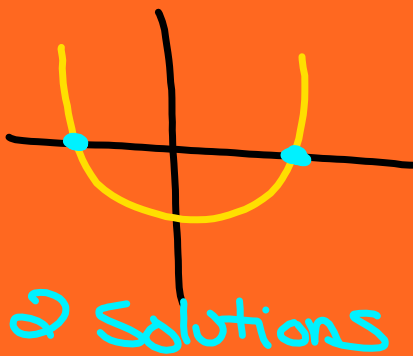
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What are the solutions to a quadratic equation?

Zeros



How many solutions can a quadratic have?



Methods for Solving Quadratics



- Graphing = *Zeros*
- Factoring & *Square root method*
- Completing the Square
- Quadratic Formula

Solve by Factoring



Multiplication Property of Zero



If we multiply 2 factors and the answer is zero, then at least one factor is zero

$$xy = 0$$

$$\underbrace{(x+3)}_{\text{factor}} \underbrace{(x-2)}_{\text{factor}} = 0$$

$$x+3=0$$

-3 -3

$$x-2=0$$

+2 +2

$$\boxed{x=-3 \quad x=2}$$

Solve:

$$(x-5)(x+7) = 0$$

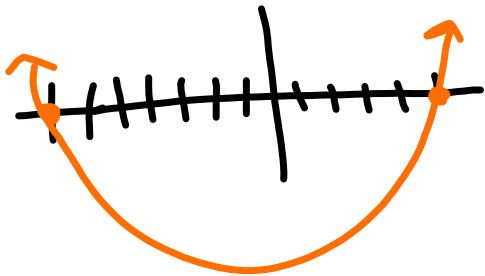
$$x-5 = 0$$

~~+5~~ +5

$$x+7 = 0$$

~~-7~~ -7

$$x = 5 \quad x = -7$$



① Standard form = 0

② factor

③ Set each factor = 0

④ Solve

