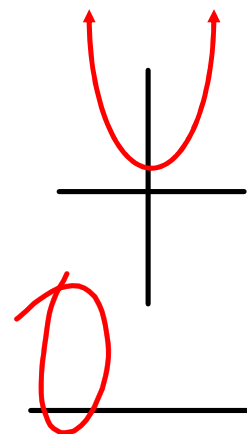
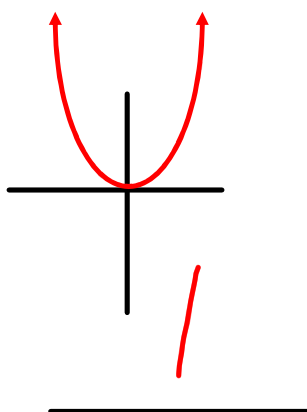
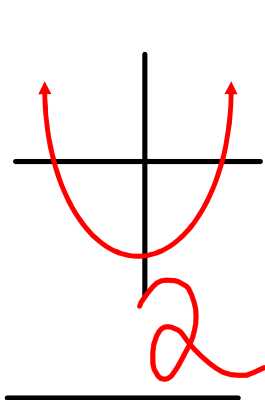


QUADRATICS: ROOTS, ZEROS, SOLUTIONS, X-INT  
 POINTS WHERE QUADRATICS CROSS X-AXIS  
 CAN ONLY OCCUR THESE THREE WAYS



QUADRATICS: ROOTS, ZEROS, SOLUTIONS, X-INT

CAN BE FOUND USING 3 METHODS

1. graph

2. factor

3. Formula

## SOLVING QUADRATICS

### SOLVING QUADRATICS BY FACTORING

Steps:

1. Make sure the problem is equal to zero.
2. Construct a diamond puzzle.
3. Find the product of a-c whose sum is b.
4. Use the two factors to split the middle term into two separate terms.
5. Factor using the grouping.
6. Set each factor equal to zero and solve for the variable.

### QUADRATIC FORMULA

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

WHEN DO YOU USE WHICH ONE?

**SOLVING QUADRATICS**

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

$$x^2 - 6x = -5$$

+5   +5

Factoring OR Formula

$$x^2 - 6x + 5 = 0$$

$$\begin{array}{r} 5 \\ -1 \times -5 \\ \hline -6 \end{array}$$

$$(x^2 - 1x)(-5x + 5) = 0$$

$$x(x-1) - 5(x-1) = 0$$

$$x-1=0 \quad x-5=0$$

$x=1$	$x=5$
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**SOLVING QUADRATICS**

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

~~$x^2 = 5 + 4n$~~   
 ~~$-5 - 4n$~~   ~~$-5 - 4n$~~

$ax^2 + bx + c$

Factoring OR Formula

$a = 1$

$x^2 - 4n - 5 = 0$

$b = -4$   
 $c = -5$

$$\frac{-(-4) \pm \sqrt{(-4)^2 - 4(1)(-5)}}{2(1)}$$

$x = 5 \pm 1$

**SOLVING QUADRATICS**

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

$ax^2 + bx + c = 0$

$n^2 - 3n = 0$

Factoring OR Formula

$a = 1 \quad b = -3 \quad c = 0$

$$\frac{-(-3) \pm \sqrt{(-3)^2 - 4(1)(0)}}{2(1)}$$

$2(1)$

$x = 3, 0$