

## Key Terms / Vocabulary

**Factoring** — Finding what to multiply together to get an expression.

Ex. 6: What to multiply to get 6.

$$\boxed{2} \times \boxed{3} = 6$$

2 and 3 are factors

$$\boxed{6} \times \boxed{1} = 6$$

6 and 1 " "

## Solving an Equation

↳ To find the solutions:

The values (numbers, functions, etc.) that fulfill the conditions stated by the equation.

## Quadratic Equation

An equation that can be written in the form  $ax^2 + bx + c = 0$ , where  $a, b, c$  is a set of real numbers, and  $a \neq 0$ .

## Zero Product Property

If  $a \times b = 0$ , then  $a = 0$  OR  
 $b = 0$  OR  
 both  $a \times b = 0$

## Completing the Square

Writing a quadratic expression as the sum or difference of perfect squares and a constant.

## Quadratic Formula

An equation that can be used to determine the solution of any quadratic equation written in the form:  $ax^2 + bx + c = 0$

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

## Discriminant

The expression  $b^2 - 4ac$  for quadratic equation  $ax^2 + bx + c = 0$ . It is used to predict how many, if any, real roots of the quadratic equation.

$$b^2 - 4ac = 0 \rightarrow \text{one solution}$$

$$b^2 - 4ac < 0 \rightarrow \text{no solution}$$

$$b^2 - 4ac > 0 \rightarrow \text{2 solutions}$$