

Quadratic Formula

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

* used for finding x-intercepts

Discriminant: How many solutions you have?

$$b^2 - 4ac$$

$$b^2 - 4ac > 0$$

$$b^2 - 4ac = 0$$

$$b^2 - 4ac < 0$$

ex) $x^2 - 12x = 40$

$$x^2 - 12x - 40$$

$$(x + 3)(x + 3)$$

$$x + 3 = 0$$

$$x + 3 = 0$$

$$x = -3$$

$$\begin{array}{r} -3 \ 0 \\ 15 \ 0 \end{array}$$

ex) $6x^2 =$

$$6x^2 - 7x$$

$$-18$$

$$-9 \frac{1}{6} + 24$$

$$(2x - 3)(3x + 1)$$