

MATH 1314

Chapter 1.4: Quadratic Equations

QUADRATIC EQUATION : $ax^2 + bx + c = 0$

SOLVE.

$$x^2 - 8x = 0$$

$$2x(2x - 7) = -12$$

$$x^2 = 25$$

$$x^2 = 64$$

$$2x^2 + 36 = 0$$

$$(x + 3)^2 = 8$$

COMPLETING THE SQUARE

$$(x + 5)^2$$

$$x^2 + Nx + \underline{\hspace{2cm}}$$
$$(x + \underline{\hspace{1cm}})^2$$

$$x^2 + 18x + \underline{\hspace{2cm}}$$

$$x^2 - 12x + \underline{\hspace{2cm}}$$

SOLVE.

$$x^2 - 3 = -10x$$

$$x^2 - 2 = 8x$$

THE QUADRATIC FORMULA

$$ax^2 + bx + c = 0$$

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

SOLVE.

$$x^2 - 6x + 8 = 0$$

$$x^2 - 6x - 3 = 0$$

$$x^2 + 12x + 36$$

$$x^2 + 4x + 5$$

THE DISCRIMINANT

$$ax^2 + bx + c = 0$$

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

DETERMINE THE NUMBER AND TYPE OF SOLUTIONS.

$$5x^2 - 3x + 1 = 0$$

$$2x^2 = 3 - 6x$$

$$4x^2 + 12x = -9$$