

Section/Lesson Title: QUADRATIC FORMULA

Materials: WS

HW# 3.6 WS

Reflections:

A. QUADRATIC FORMULA

$$ax^2 + bx + c = 0 \quad \text{complete } \square$$

$$x^2 + \frac{b}{a}x + \frac{c}{a} = 0$$

$$x^2 + \frac{b}{a}x + \left(\frac{b}{2a}\right)^2 = -\frac{c}{a} + \left(\frac{b}{2a}\right)^2$$

$$\left(x + \frac{b}{2a}\right)^2 = -\frac{c}{a} + \frac{b^2}{4a^2}$$

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

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

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

Memorize!

B. Solve

1) must be in STANDARD FORM  $ax^2 + bx + c = 0$

$$3x^2 + 10x + 5 = 0$$

$$x = \frac{-10 \pm \sqrt{100 - 4 \cdot 3 \cdot 5}}{6}$$

$$x = \frac{-10 \pm \sqrt{40}}{6}$$

$$x = \frac{-10 \pm 2\sqrt{10}}{6}$$

$$\boxed{x = \frac{-5 \pm \sqrt{10}}{3}}$$



2) SIMPLIFY  $\frac{-2 \pm \sqrt{8}}{2}$   $(1 \pm \sqrt{2})$

3)  $x^2 + 4x - 6 = 0$  "c" is negative  
 $(-2 \pm \sqrt{10})$

4)  $x = \frac{-2 \pm \sqrt{64}}{4}$

$$= \frac{-2 \pm 8}{4}$$

$$= \frac{6}{4} \text{ or } -\frac{10}{4} \quad \text{so } x = \frac{3}{2} \text{ or } -\frac{5}{2}$$