

**Turn in the Quiz Corrections**  
**and the O.T.L.**

9.6. Solving Quadratic Equations by the Quadratic Formula

March 29, 2007

Quadratic Equation: } Standard Form.  
                                  } Curve Line

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

Quadratic Formula: the Solutions ≡  
for a Quadratic Equation are...

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

When:  $a \neq 0$  : because 0 cannot be the Denom.

$(b^2 - 4ac) > 0$  : because the Radicand  
cannot be Negative.

Solve:  $x^2 + 9x + 14 = 0$

1<sup>st</sup> find  $a = 1$   
 $b = 9$   
 $c = 14$

2<sup>nd</sup> Use Q.F.  
 $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$$x = \frac{-(9) \pm \sqrt{(9)^2 - 4(1)(14)}}{2(1)}$$

$$= \frac{-9 \pm \sqrt{81 - 56}}{2} = \frac{-9 \pm \sqrt{25}}{2} = \frac{-9 \pm 5}{2}$$

$$x = \frac{-9+5}{2} \\ = \frac{-4}{2}$$

or

$$x = \frac{-9-5}{2} \\ = \frac{-14}{2}$$

$x = -2$  or  $x = -7$

Solve:  $-2 + x^2 = -x$   
            
          + x      + x

1<sup>st</sup>: Get into  
Standard form

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

find  $a = 1$   
 $b = 1$   
 $c = -2$

Then:

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

$$x = \frac{-\underline{(1)} \pm \sqrt{\underline{(1)^2} - 4(\underline{1})(\underline{-2})}}{2(\underline{1})}$$

$$= \frac{-1 \pm \sqrt{1 + 8}}{2} = \frac{-1 \pm \sqrt{9}}{2} = \frac{-1 \pm 3}{2}$$

$$x = \frac{-1 + 3}{2} \quad \text{or} \quad x = \frac{-1 - 3}{2}$$

$$= \frac{2}{2}$$

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

$$x = 1 \quad \text{or} \quad x = -2$$

O.T.L.

① Ag 536-537

19-27(0); 28, 31, 34, 37,

40, 42, 48, 49, 53, 55