Unit 5: Quadratic Functions **Name: _____**

Day 17 Notes Factoring to Solve Quadratic Equations **Date: _____ Hour: ___**

(PH 10-5)

Zero Product Property

For every real number a and b; if $a \cdot b = 0$, then either a = ____ or b = ____ .

Example 1: Solve $(x + 4)(x – 2) = 0$.

Example 2: Solve $(2x + 3)(x – 5) = 0$

Example 3: Solve each equation. Be sure the equation is in *standard form* before factoring.

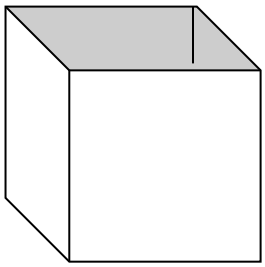
a. $x^2 + x – 42 = 0$

b. $x^2 – 12x = –36$

c. $4y^2 – 9y = y^2 + 2y –10$

<u>Example 4</u>: Solve the cubic equation $x^3 - 5x^2 + 4x = 0$

<u>Example 5</u>: Suppose an open top box has a base with a width of x, a length of x + 1, and a height of 2in. It is cut from a rectangular sheet of cardboard with an area of 182 in^2. Find the dimensions of the box.



<u>Homework</u>: Pages 538 – 540 #1 – 23 odd and 27 – 35 odd