Algebra 2A Notes Name: _____

4-5 Quadratic Equations Date: _____ Hr: _____

Objective: To solve quadratic equations by factoring and graphing.

Common Core Content Standard:

A.CED.1 Create equations and inequalities in one variable and use them to solve problems.

A.APR.3 Identify zeros of polynomials when suitable factorizations are available …

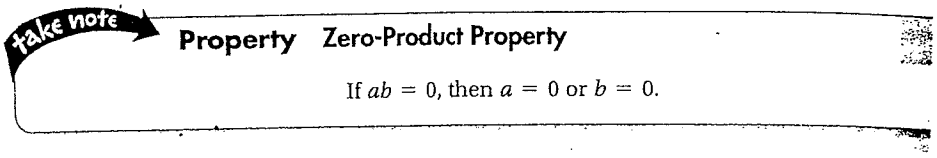
Also **A.SSE.1.a**

Whenever the graph of function f(x) intersects the x-axis, f(x) = 0. A value of x for which f(x) = 0 is a _____ of the function.

To find the zeros of a quadratic function $y = ax^2 + bx + c$, solve the related quadratic equation

$= ax^2 + bx + c$.

You can solve some quadratic equations in standard form by factoring the quadratic expression and using the _____ Property.



Example 1: **Solve a Quadratic Equation by Factoring**

What are the solutions of the quadratic equation $x^2 + 3x - 18 = 0$?

Example 2: **Solving a Quadratic Equation with Tables**

What are the solutions of the quadratic equation $x^2 - 11x + 24 = 0$

Example 3: **Solving a Quadratic by Graphing**

What are the solutions of the quadratic equation $6x^2 = -19x - 15$?

Example 4: **Using a Quadratic Equation**

The function $f(x) = -0.002x^2 + .77x$ models the path of a baseball, where f(x) gives the height of the ball and x gives the distance from where it is hit in feet.

a.) How far does the ball travel before hitting the ground?

b.) How high does the ball go?

c.) What is a reasonable domain and range for such a function?