**Solving Quadratic Equations**

* whenever you have an equal sign, it means that there are possible values of x that will make the equation true
* for example, what value of ***x*** makes the following statement true?: **x – 3 = 4** x = \_\_\_\_\_\_\_
* this value is called a ***solution*** for the equation ***x – 3 = 4***
* we can use graphs to solve equations as well
* for example, graph both sides of the equation using your graphing calculator:

Y1 = x – 3

Y2 = 4



* the ***x-coordinate*** where the lines intersect will give you the solution
* to determine this value, press 2nd 🡪 TRACE 🡪 5:intersect 🡪 ENTER 🡪 ENTER 🡪 ENTER

**Solving Quadratic Equations:**

* next time, we’ll learn how to solve quadratic equations by hand
* today, we’ll start by solving them using your graphing calculator
* for each of the following examples, graph both sides of the equation in your calculator and determine the solution by finding the x-coordinate of their intersection(s)
* you can also check your solution(s) by plugging them back into the original equation and seeing if both sides work out to be equal

**Examples:** Solve graphically and check the following equations.

1. –4.9x2 + 19.2x – 5.2 = 0
2. 2x2 – 5x + 3 = 3x(2 – x)



**Example:** The height of a diver can be represented with the following formula:

**,** where‘h’ is his height and ‘t’ is time.



1. What is the value of h when the diver hits the water?
2. How high was the diving board from the surface of the water?
3. How long was the diver in the air?