## 3.2 Quadratic Functions in General Form

* A quadratic equation is an equation that can be written in the form:

* The solutions to a quadratic equation are called [＿＿＿＿]

* It should be noted that while a quadratic equation only contains [＿＿＿] [＿＿＿＿] by considering its related quadratic [＿＿＿＿] we see that the roots of the equation are the same as the [＿＿＿＿] on the graph of the function.

* As we saw with the graphs of quadratic functions, quadratic equations may have:
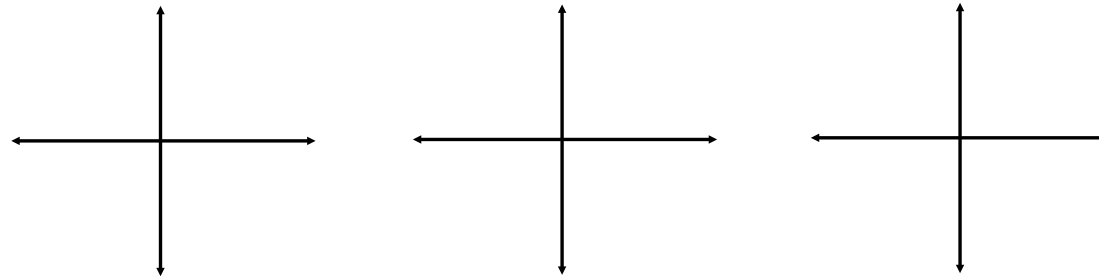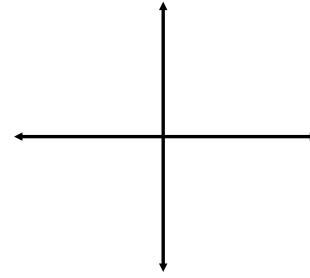

* On a graphing calculator, we can get the zeroes of the graph by using the "Calc" button followed by the "zero" feature.

  ex. find the solutions to $0 = x^2 - 6x + 5$

...now we can verify the roots of the equation by substituting them back into the equation to see if LS = RS.

ex. solve $-2 = 2x^2 + x$ by graphing

Remember this one?

Gumdrop Joe slips on the slippery FH parking lot and falls to the ground. His hat however flies into the air with the greatest of ease. The height of his hat is described by the equation

$$h = -5t^2 + 20t + 1$$

(a) What is the maximum height of the hat?

(b) When will the hat hit the ground?

Homefun: pg. 215 #1, 2, 3abe, 4ab, 5-8, 13, 17-19