Name:_____Date:_____Period:_____
_ EOC REVIEW: QUADRATICS

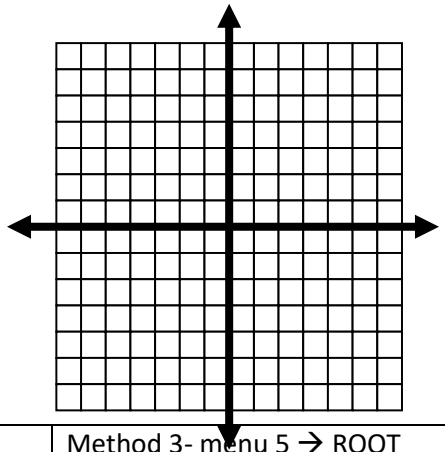
A2.A.REI.D.6 (formerly A-REI.D.11) Explain why the *x*-coordinates of the points where the graphs of the equations y = f(*x*) and y = g(*x*) intersect are the solutions of the equation f(*x*) = g(*x*); find the approximate solutions using technology.

A2.F.BF.A.1 Write a function that describes a relationship between two quantities.

A2.F.BF.A.1a Determine an explicit expression, a recursive process, or steps for calculation from a context.

A2.F.BF.A.1b Combine standard function types using arithmetic operations.

1. (I do) The graph of the function $y = x^2 - 3x - 4$ is a parabola. Plot the points for the *x*-intercept(s), *y*-intercept(s) and maximum or minimum point on the coordinate plane. Then draw the parabola.



2. What are the zeros of $y = -x^2 + 2x + 8$

Method 1 - factoring	Method 2- quadratic formula	Method 3- menu 5 → ROOT

3. (I do) Consider the function $f(x) = x^2 - 8x + 19$. Write an equivalent form of the equation to reveal the maximum or minimum height.

4. (We do) Write a quadratic equation for a = 3, b = 4 and c = 8. Find the solution(s) of the equation in quadratic form.

5. (They do) The length of a garden is 6 more than the width. The area is 40 square feet.
   a. Create an algebraic equation to determine the length and width of the garden.
   b. What is the length, in feet, of the garden?

6. (They do) A diver dives from a 10 m springboard. The equation $f(t) = -4.9t^2+4t+10$ models her height above the pool at time t. At what time does she enter the water?

Independent Practice (You do). Complete your assignment on a separate sheet. Show all work.

1. A rectangular pool has an area of $5x^2 + 23x + 12$ and the length of one side is $5x + 3$. What is the length of the other side? factor $5x^2+23x+12 = (5x+3)(x+4)$ → $x+4$
2. How many solutions are there for the following system? Give an ordered pair that best approximates each solution. $\begin{cases} f(x) = 2x^2 - 15x + 20 \\ g(x) = -4x^2 + 16x - 12 \end{cases}$ (1.43, 2.68) (3.74, -8.12)

3. A projectile is launched from ground level and models the equation $h(t) = vt - 16t^2$, where v is an initial velocity in ft/sec, t is the time in seconds and h represents the height.
   a. If the initial velocity is 128 ft/sec, find the time between launch and landing.
   b. Find the maximum height of the projectile.

$h(t) = 128t - 16t^2$

256 ft

8 seconds