

Name \_\_\_\_\_

Date \_\_\_\_\_

**Advanced Algebra**

**Unit 4: Quadratics**

**Homework Week #1**

**Please start to read in your Green book 360 through 389**

Everybody should be able to do all problems involving Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

**Monday 12/5/2016 : "I can move between the forms of a quadratic". Fill in the missing forms:**

General Form	Factored Form	Vertex Form
$x^2+14x+45$		
	$8(x-3)(x+6)$	
		$(x-2)^2-4$

**For the following problems,** factor and use the mid- point method to find the x intercepts, vertex and y intercept. Make a sketch of each graph:

1) $y= x^2 + 14x + 40$

2) $f(x)= x^2 - 4x - 32$

3) $f(x)= x^2 + 10x + 24$

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**Tuesday 12/6/2016:** " I can move between the forms of a quadratic" Fill in the missing forms:

General Form	Factored Form	Vertex Form
$6x^2+14x+8$		
		$3(x-2)^2-5$
	$4(x-10)(x+4)$	

Solve by using the quadratic formula  $y= 3x^2-5x+1$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

The x values or the roots or answers are: \_\_\_\_\_ and \_\_\_\_\_

**Review from Unit 2:**

Sketch the following parabolas. Remembering your shifts that we talked about in Unit 2 and that the parent graph of  $y=x^2$  is a parabola though (0,0) with a 1-1 relationship.

a)  $f(x)=2(x-3)^2+5$

b)  $y=(x-2)^2$

c)  $f(x)=2x^2+5$

d)  $y=3x^2$

e)  $y=-(x+4)^2$

f)  $y=x^2+4$

**Wednesday 12/7/2016** “ I can find the x intercepts, vertex, and y intercept. I can do this by finding the roots. Once I find the roots, I can add the roots together and divide by 2. This will give me the x coordinate of the vertex or the middle of the parabola. Then I can do VARS( middle) to get the corresponding y value.

General Form	Roots	Vertex	Y intercept	Vertex Form
$x^2+14x+40$				
$x^2-4x-32$				
$x^2+10x+24$				

**Thursday 12/8/2016** “ I can write the equation of a parabola”

A parabola touches the x axis at 3 and passes through the point ( -2,25). Write the equation in both vertex and standard form:

Vertex form \_\_\_\_\_

General form \_\_\_\_\_