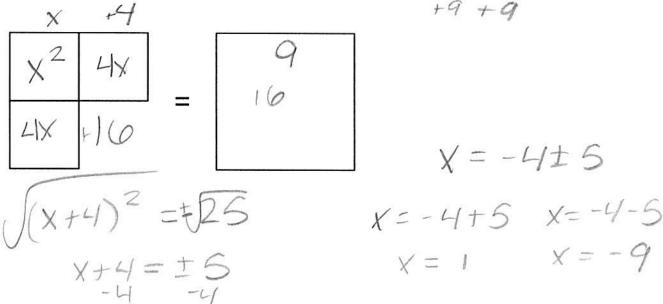
Name:		
UNIT 10		

Date:______ LESSON 7

<u>Do Now</u>: Solve the following quadratic equation by <u>completing the square</u> $x^2 + 8x - 9 = 0$ + 9 + 9



AIM: QUADRATIC EQUATION IN VERTEX FORM- DAY 1

<u>Directions</u>: Write each quadratic equation in vertex form by <u>completing the square</u>. Then, identify the quadratic equation's turning point.

2)
$$f(x)=x^{2}+6x-2$$

 $Y=x^{2}+6x-2$
 $+2$
 $Y+2=x^{2}+6x+9$
 $Y+11=(x+3)^{2}$
 -11
 $Y=(x+3)^{2}-11$
 $Y=(x+3)^{2}-11$
 $Y=(x+3)^{2}-11$

Step 1: Move the constant ("c" value) to the right side.

Step 2: Take half of the "b" value and square it and add it to BOTH sides.

Step 3: Make the left side a perfect square trinomial.

Step 4: Factor the perfect square trinomial and simplify the right side.

Step 5: Solve for y

$$y = (x - h)^2 + k$$

Step 6: Identify the turning point (h,k)

Step 7: Check the vertex in the calculator.

4)
$$f(x) = x^2 + 8x$$
 $\left(\frac{8}{2}\right)^2 = 16$
 $f(x) + 16 = x^2 + 8x + 16$
 $f(x) + 16 = (x + 4)^2$
 -16 -16
 $f(x) = (x + 4)^2 - 16$