Name:_____ Date:_____

Unit 9 **Lesson 3**

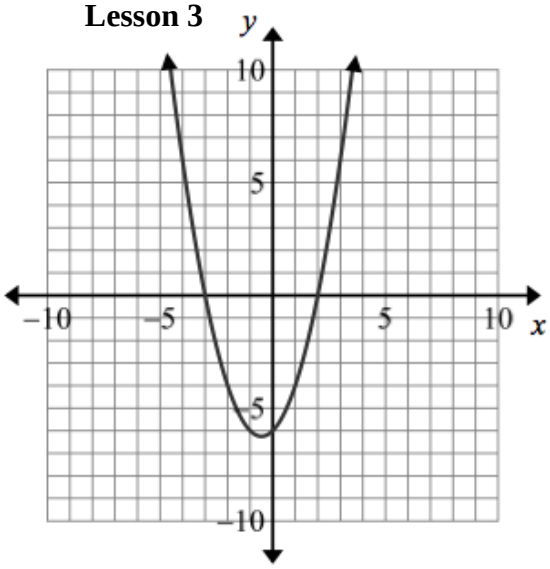
DO NOW: Which equation is represented the following graph?

a) $y = -x^2 + x - 6$

b) $y = x^2 - x + 6$

c) $y = x^2 + x - 6$

d) $y = x^2 + x + 6$



AIM: WRITING A QUADRATIC EQUATION WHEN GIVEN THE ROOTS

1. Write the quadratic equation whose roots are 5 & 7.

2. Write the quadratic equation whose roots are $\{-2, 6\}$.

3. Write the quadratic equation whose root is 9.

4. The two roots of an equation are (0,0) & (3,0). Write the quadratic equation.

Steps for Writing a Quadratic Equation given the Roots:

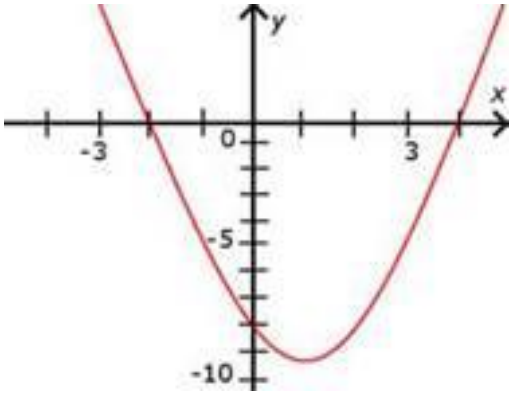
1) _____

2) _____

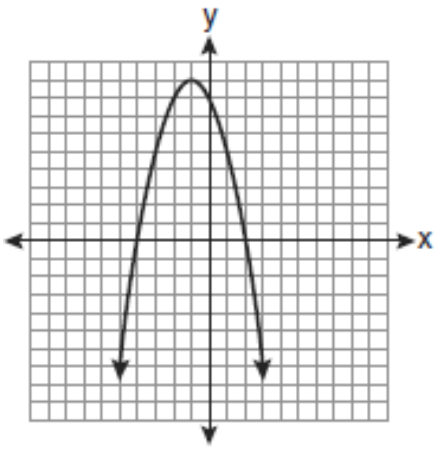
3) _____

4) _____

5. Write the quadratic equation given the parabola below:



6. Write the quadratic equation that is represented by the parabola below.



7. If the equation $x^2 - kx - 36 = 0$ has $x = 12$ as one root, what is the value of k?

8. If the root is -3, using the equation $x^2 + x - k = 0$ what is the value of k?

   b. Using the value of k, determine the other root.

9. If 2 and 3 are roots of the equation $x^2 + kx + 6 = 0$, what is the value of k?