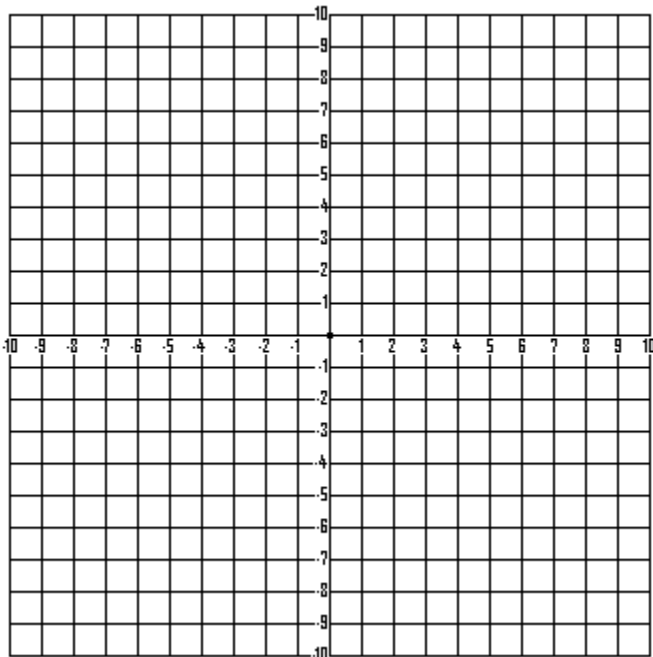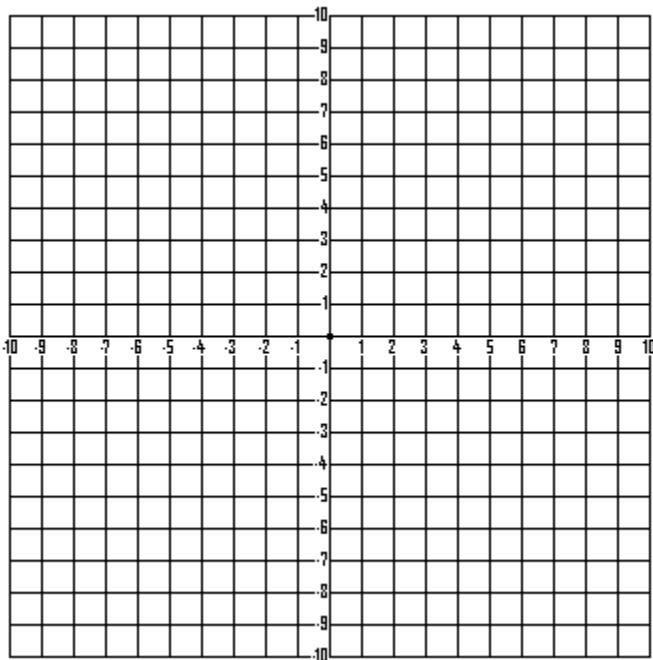Name _____ Hour _____

U5, L2 Quiz Review

Learning Target 5D: *I can use the vertex form of a quadratic function.*

1. Given the function $y = -2(x + 1)^2 - 5$

   a. Does the graph open up or down?

   b. Is the vertex point a max or min?

   c. Find the coordinates of the vertex point.

   d. Find the coordinates of the y-intercept.

   e. Find the x-intercept(s).

   f. Graph the function.

2. Given the function $y = 4(x - 2)^2$

    a. Does the graph open up or down?

    b. Is the vertex point a max or min?

    c. Find the coordinates of the vertex point.

    d. Find the coordinates of the y-intercept.

    e. Find the x-intercept(s).
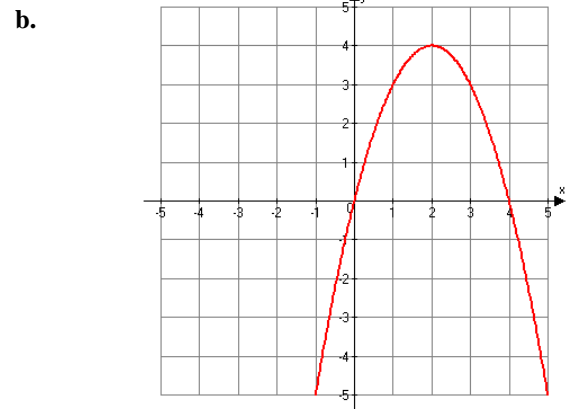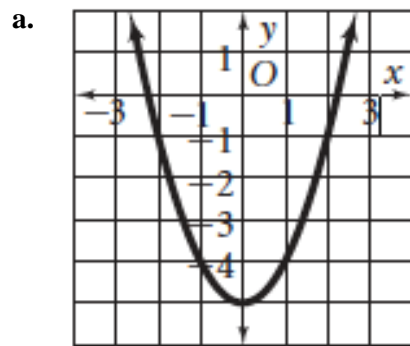
    f. Graph the function.

3. Write the function in standard form.

    a. $y = (x - 8)^2 - 5$

    b. $y = (x - 2)^2 - 3$

4. Write the equation in vertex form of the quadratic function from the graph.

a.

b.

Learning Target 5E: *I can use the quadratic formula to find and analyze the solutions of a quadratic equation.*

5. Solve each quadratic equation using quadratic formula. How many solutions are there **AND** what type?

a. $2x^2 - 3x - 5 = 0$

b. $8x^2 + 4x - 16 = -x^2$

c. $2x^2 = 6x - 5$

6. Find the discriminant. How many solutions are there **AND** what type?

a. $y = x^2 + 10x - 25$ **b.** $y = 4x^2 - 4x + 1$ **c.** $y = -2x^2 + 3x - 5$

7. Simplify.

a. $(5 - 6i)(6 - 2i)$ **b.** $(1 + 5i)(-6 - 3i)$

8. Jennifer hit a golf ball from the ground represented by the function $h(t) = -16t^2 + 100t$, where t is the time in seconds and $h(t)$ is the height of the ball in feet.

a. When des the golf ball reach its highest point?

b. Find the highest point that her golf ball reached.

b. When does the ball hit the ground?

9. A bunny rabbit population is observed on an island and is given by the function

$p(t) = -0.4t^2 + 130t + 1200$, where t is the time in months since the rabbit population was being observed.

a. When is the maximum population attained?

b. What is the maximum population?

c. When does the bunny rabbit population disappear from the island?