Name_____ Date_____ Period_____

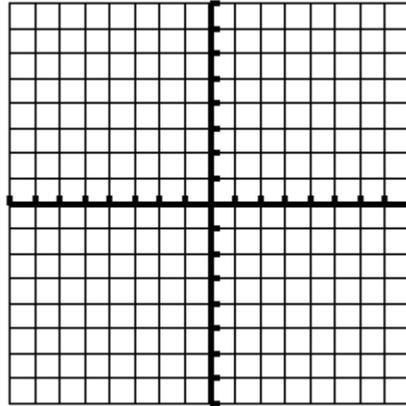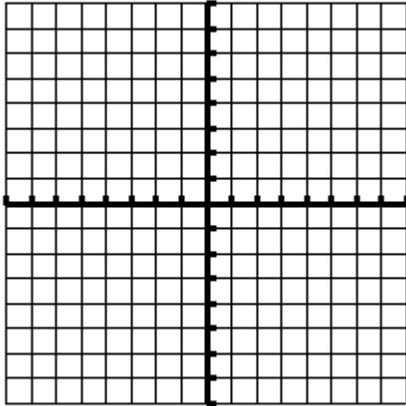## GRAPHING QUADRATICS IN VERTEX FORM WORKSHEET #2

For questions 1 – 5, find the vertex, axis of symmetry, y-intercept and graph.

1. $y = -(x-2)^2 + 4$ vertex:_____

   Axis:_____ y-int._____

2. $y = 2(x+1)^2 - 3$ vertex:_____

   Axis:_____ y-int._____

3. $y = -\dfrac{1}{4}(x+2)^2 + 1$ vertex:_____

   Axis:_____ y-int._____

4. $y = \dfrac{1}{2}(x-3)^2$ vertex:_____

   Axis:_____ y-int._____
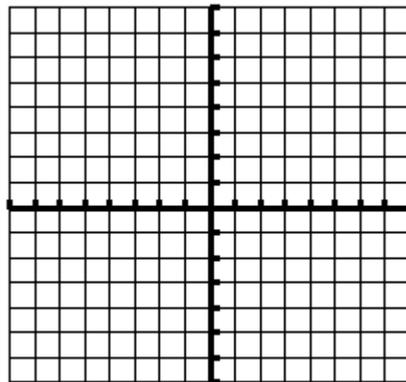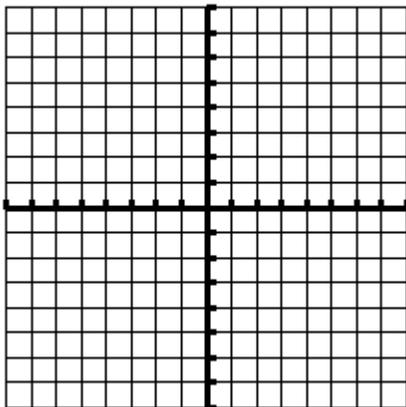
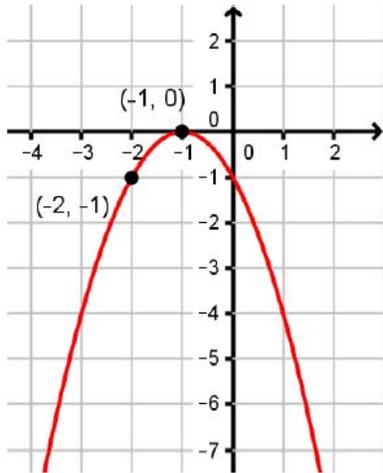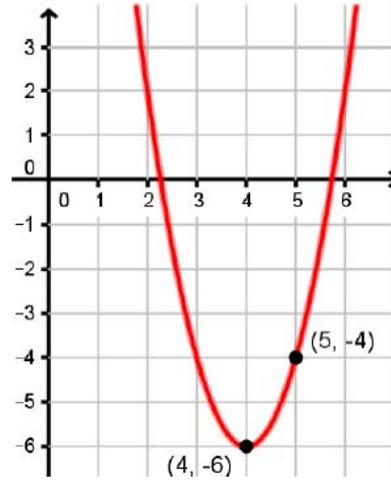5. $y = -2(x-1)^2 + 1$ vertex:_____

   Axis:_____ y-int._____
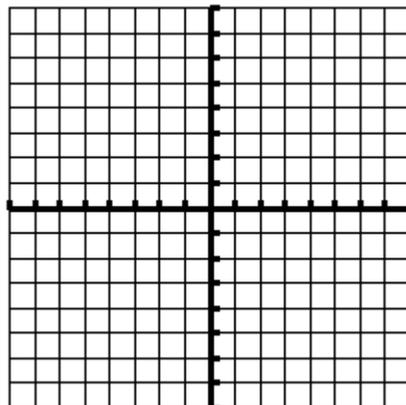
Write the equation of each parabola in vertex form.

6. _____

7. _____

Write the quadratic function in standard form.

8. $y = 2(x-4)^2 - 11$

9. $y = -3(x-5)(x+2)$

10. $y = \dfrac{1}{2}(x-6)^2 - 14$

11. An eagle is flying from point A to point B in order to catch a sparrow. Its flying trajectory is a parabola shape that has the equation $y = -5(x+6)^2 + 10$, where x and y are measured in meters. If the eagle is at a height of 20 meters, how far away are the two points from one another?

12. Engineers built an arch bridge across the Hudson river. The arch bridge makes a parabola shape that has the equation $y = -0.1(x-5)^2 + 12$, where x and y are measured in meters. If the bridge makes contact with both banks at a height of 4 meters, how long is the distance between the two banks of the Hudson river?

13. Jennifer hit a golf ball from the ground and it followed the projectile $h(t) = -16t^2 + 100t$, where **t** is the time in seconds, and **h** is the height of the ball. Find the highest point that her golf ball reached and also when it hits the ground again.