Math 2 Name _____

Modeling Quadratics Date _____ Per _____

Write the equation of the quadratics based on the given information. Please write the equation in all three (Standard, Intercept, Vertex) form.

1. x-intercepts at (3, 0) and (-7, 0) and a maximum value of (-2, 5).

2. x-intercepts at (-6, 0) and (-10, 0) and a minimum value of (-8, -12).

3. x-intercepts at (-3, 0) and (5, 0) and a y-intercept at (0, -30).

4. Has a vertex of (-3, 4) and a y-intercept of (0, 14). Write only in vertex and standard form.

5. Has a vertex of (2, -3) and has a y-intercept of (0, -15). Write only in vertex and standard form.

6. A football is kicked into the air. It's height in meters after *t* seconds is given by $h = -4.9(t - 2.4)^2 + 29$.

   a) What was the height of the football when it was kicked?

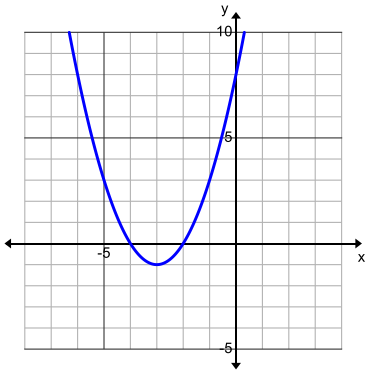
   b) What was the maximum height of the ball? At what time was the maximum height reached?

   c) How high was the ball after 2 seconds?

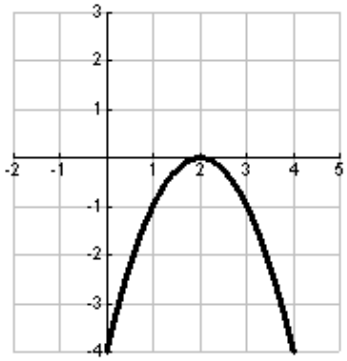
   d) Was the ball still in the air after 5 seconds?

Write the equation of each parabola in vertex form.

7. _____



8. _____



9. _____