

Math 2

Name _____

Modeling Quadratics

Date _____ Per _____

Write the equation of the quadratics based on the given information.

1. x-intercepts at $(3, 0)$ and $(-7, 0)$ and a maximum value of $(-2, 5)$. Write in intercept and standard form.
2. x-intercepts at $(-6, 0)$ and $(-10, 0)$ and a minimum value of $(-8, -12)$. Write in intercept and standard form.
3. x-intercepts at $(-3, 0)$ and $(5, 0)$ and a y-intercept at $(0, -30)$. Write in intercept and standard form.

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.

