Introduction to Quadratic Relationships

Homework

Name _KEY_

Date _____ Period _____

Superman kicks a ball into the air. The path can be found using the function $d(t) = 36t - 6t^2$, where d is the distance above the ground in meters and t, is the time in seconds. The following is a graph of the path of the ball.

1. How high is the ball after 1 second?

   30 meters

2. When is the ball 48 m above the ground?

   From 2-4 seconds At least
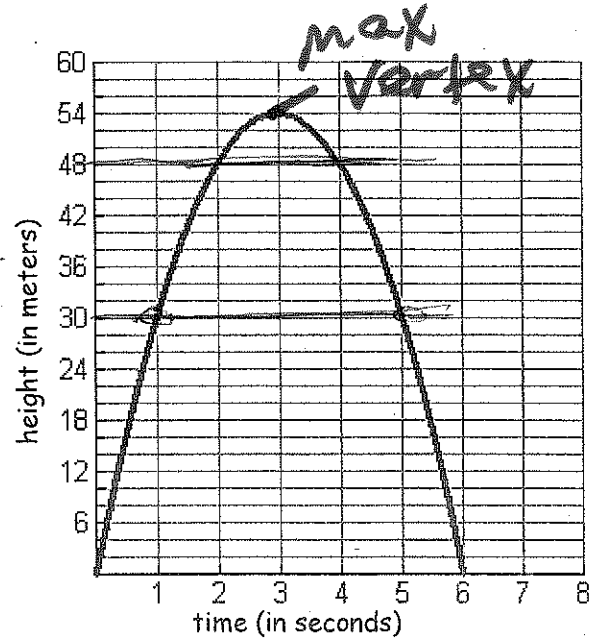   2 & 4 seconds

3. What is the maximum height of the ball?

   54 meters

4. When is the ball 30 m above the ground?

   From 1 & 5 seconds

5. When will the ball hit the ground?

   After 6 seconds

Use the graph to complete the following.

6. Draw the axis of symmetry on the graph.

7. Write the vertex as an ordered pair. $(-2, -9)$

8. Is the vertex a maximum or a minimum point?

9. Does the parabola open up or down?

   Opens up