

UNIT 2 • QUADRATICS**A–SSE.3*****Lesson 2.7: Creating and Graphing Equations Using the x -intercepts****Practice 2.7: Creating and Graphing Equations Using the x -intercepts****B**

Identify the x -intercepts, if any, of the following quadratic functions. Determine the equation of the axis of symmetry for each parabola.

1. $h(t) = (-16t + 1)(t - 7)$

2. $y = 2\left(x - \frac{3}{4}\right)\left(x + \frac{7}{2}\right)$

Determine the equation of each quadratic function in standard form, given the zeros and a point on the graph.

3. $x = -4, x = -2; (-3, -1)$

4. $x = 15, x = 5; (0, 75)$

Sketch a graph for each of the following quadratic functions.

5. $f(x) = (x - 3)(x - 4)$

6. $g(x) = (x - 3)(x - 2)$

continued

Name: _____

Date: _____

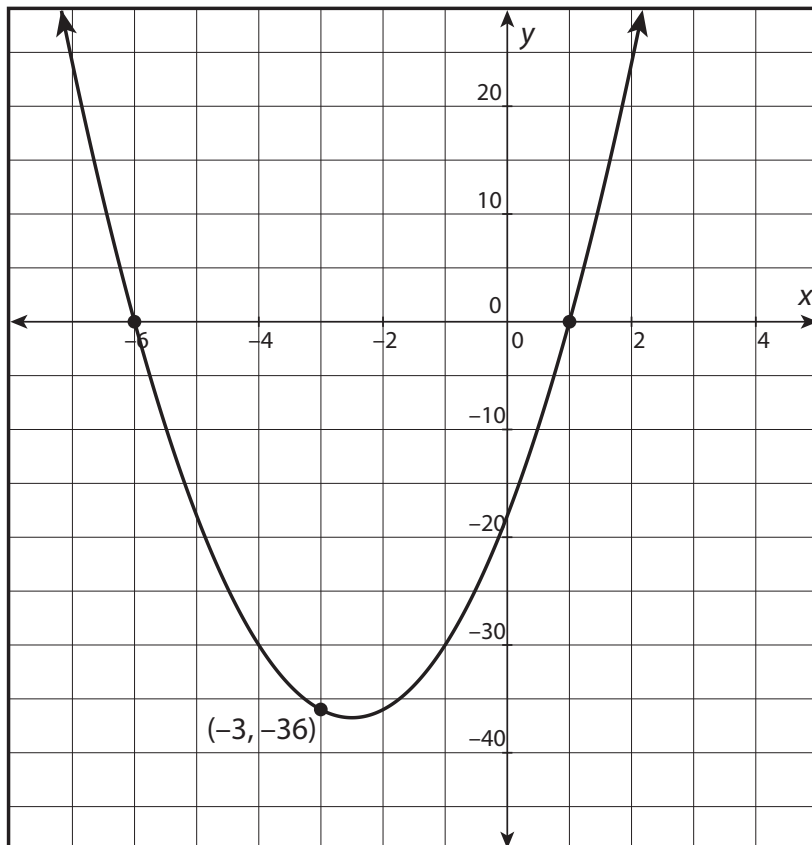
UNIT 2 • QUADRATICS

A-SSE.3*

Lesson 2.7: Creating and Graphing Equations Using the x -intercepts

Given the graph of a quadratic function, use the intercepts and a point to write the equation of the function in standard form.

7.



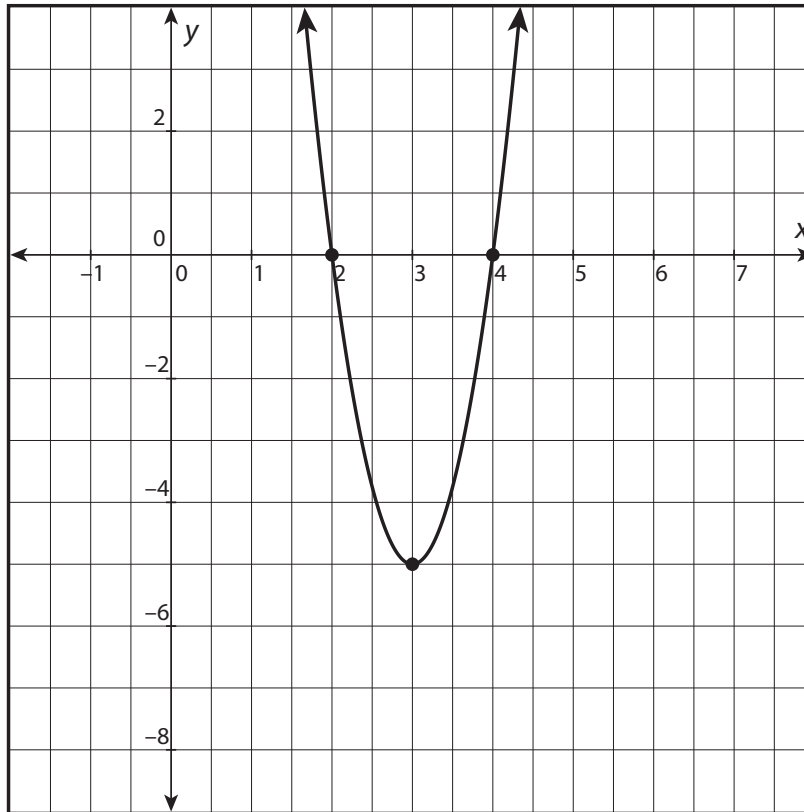
continued

UNIT 2 • QUADRATICS

A–SSE.3*

Lesson 2.7: Creating and Graphing Equations Using the x -intercepts

8.



Use the given information to solve the following problems.

9. A walkway is being installed around a rectangular playground. The playground is 30 feet by 12 feet, and the total area of the playground and the walkway is 1,288 ft². What is the width of the walkway?
10. A high school senior vacationing in Negril, Jamaica, for her senior trip jumped off a 20-foot cliff into a pool of water. The height of the senior above the water is modeled by the function $h(t) = -t^2 + \frac{1}{4}t + \frac{5}{4}$, where $h(t)$ is the height of the senior above the water in feet t seconds after jumping off the cliff. How many seconds will it take for the senior to reach the water?