

UNIT 2 • QUADRATICS

A–CED.2*

Lesson 2.11: Quadratic Regression**Practice 2.11: Quadratic Regression****B**

For problem 1, calculate the quadratic regression equation of the ordered pairs.

1. $(10, 3), (9, -3), (11, 13), (4, 27)$

Use the following information to complete problems 2–4.

A soccer ball is kicked, and the height of the ball is tracked after x seconds. The quadratic path that the ball models includes the following points: $(0, 0), (1, 1.57), (2, 3.08), (5, 7.25), (7, 9.73)$

2. Use the ordered pairs to create the quadratic regression equation, with y representing the height of the ball and x representing the seconds since it was kicked.
3. What was the initial height of the soccer ball?
4. What is the maximum height that the soccer ball reached?

Use the following information to complete problems 5–7.

Kiara tosses a coin off a bridge into the stream below. The quadratic regression equation can be found using the following ordered pairs, where y is the height (in feet) and x is the time (in seconds).

5. Use the following ordered pairs to create the quadratic regression equation: $(0, 112), (2, 240), (5, 192), (7, 0)$
6. What is the maximum height of the coin?
7. When will the coin hit the water?

continued

Name: _____

Date: _____

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Use the following information to complete problems 8–10.

A tennis player hits balls across the court and records his maximum height of each hit.

Time	0	1	2	3
Height	5.5	6.0	5.5	4.0

8. Calculate the quadratic regression equation from the data in the table.

9. What was the maximum height of the ball?

10. When did the ball hit the ground?