

## UNIT 2 • QUADRATICS

F-IF.4\*

## Lesson 2.6: Interpreting Quadratic Functions

## Practice 2.6: Interpreting Quadratic Functions

B

Sketch the graph for each of the following quadratic functions.

1.  $a(x) = 2x^2 - 6x + 4$

2.  $e(x) = x^2$

3.  $f(x) = x^2 + 2$

Find the  $y$ -intercept and vertex of the following functions. State whether the vertex is a minimum or maximum point on the graph and explain your reasoning.

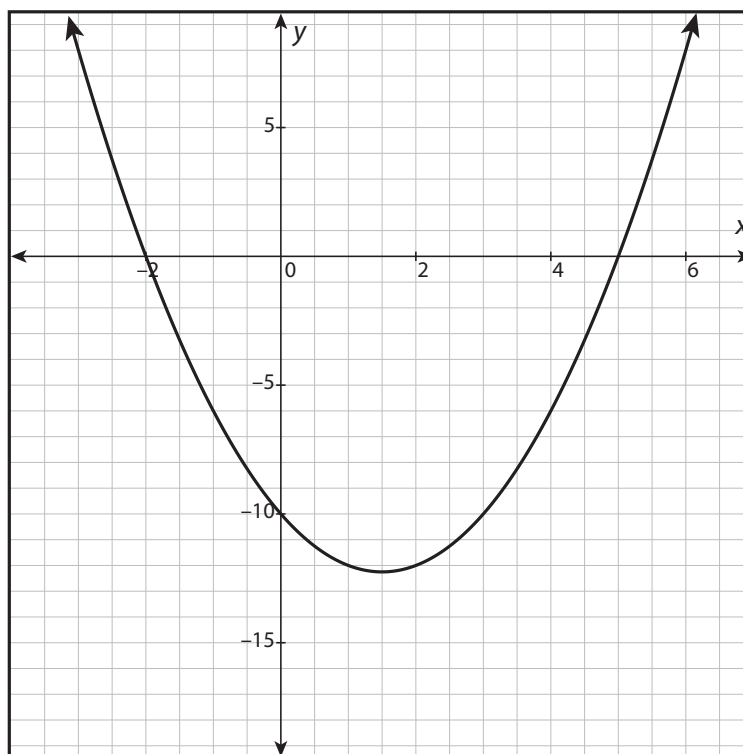
4.  $n(h) = -2h^2 - 7h$

5.  $l(r) = 4r^2 + 40r + 7$

6.  $f(x) = -2x^2 + 4x + 3$

Does the following graph represent the given function? Explain your reasoning.

7.  $d(t) = t^2 - 3t - 5$

**continued**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

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Use your knowledge of quadratic functions to complete the problems that follow.

8. Create the equation of a quadratic function with a vertex of (5, 6) and a  $y$ -intercept of  $-69$ .

9. The path of a ball shot up in the air from a slingshot can be modeled by the function  $h(t) = -16t^2 + 150t + 4$ , where  $h$  is the height, in feet, of the ball above ground  $t$  seconds after it is released. At what height was the ball released into the air?

10. A sock manufacturing company's profit  $p$  (in hundreds of dollars) after selling  $x$  thousand pairs of socks can be modeled by the function  $p(x) = -4x^2 + 40x - 2$ . How many pairs of socks must be sold in order to maximize profits?