

Unit 7: Introduction to Quadratic Functions

PRACTICE

Name: _____ Date: _____

Solve each problem and write your final answer on the line; show your work in the space provided.

1. For the quadratic function
- $f(x) = x^2$
- , find
- $f(6)$
- .

Answer: _____

2. For
- $f(x) = x^2 - 4x + 1$
- , find
- $f(5)$
- .

Answer: _____

3. For
- $f(x) = 3x^2$
- , find
- $f(4)$
- .

Answer: _____

4. For
- $f(x) = x^2$
- , find
- $f(-9)$
- .

Answer: _____

5. For
- $f(x) = x^2 + 2x - 8$
- , find
- $f(-3)$
- .

Answer: _____

6. Find the axis of symmetry of
- $f(x) = x^2 - 10x + 2$
- .
-
- Give your answer as
- $x =$
- a number.

Answer: _____

7. Find the vertex of
- $f(x) = x^2 - 6x + 5$
- . Write it as an ordered pair
- (x, y)
- .

Answer: _____

8. Find the y-intercept value of
- $f(x) = 2x^2 - 5x + 7$
- (that is, find
- $f(0)$
-).

Answer: _____

9. The zeros of
- $f(x) = (x - 3)(x + 4)$
- are the solutions to
- $f(x) = 0$
- . Write them as an ordered pair (smaller, larger).

Answer: _____

10. A ball's height in feet is
- $h = -16t^2 + 64t$
- , where
- t
- is time in seconds. Find the height when
- $t = 1$
- .

Answer: _____

11. A quadratic sequence begins 4, 7, 12, 19, 28. Find the constant second difference of the sequence.

Answer: _____

12. At
- $x = 5$
- , how much greater is the value of
- 2^x
- than the value of
- x^2
- ? (Compute
- $2^5 - 5^2$
- .)

Answer: _____