

Unit 6: Transformations of Functions

PRACTICE

Name: _____ Date: _____

Show your work and write each answer exactly as requested (a number, a coordinate pair, or the word even/odd).

1. Let $f(x) = x^2$. Define $g(x) = f(x) - 5$. Find $g(2)$.

Answer: _____

2. Let $f(x) = x^2$. Define $g(x) = f(x - 4)$. Find $g(6)$.

Answer: _____

3. The point $(5, -2)$ lies on the graph of $y = f(x)$. State the coordinates of the corresponding point on the graph of $y = -f(x)$.

Answer: _____

4. The point $(3, 7)$ lies on the graph of $y = f(x)$. State the coordinates of the corresponding point on the graph of $y = f(-x)$.

Answer: _____

5. Let $f(x) = x^2 - 1$. Define $g(x) = 3 \cdot f(x)$. Find $g(2)$.

Answer: _____

6. Let $f(x) = x^2$. Define $g(x) = f(2x)$. Find $g(3)$.

Answer: _____

7. Is the function $f(x) = x^4 - 2x^2$ even, odd, or neither? Answer with one word.

Answer: _____

8. Is the function $f(x) = x^3 + x$ even, odd, or neither? Answer with one word.

Answer: _____

9. State the coordinates of the vertex of the parabola $y = (x - 3)^2 + 5$.

Answer: _____

10. The point $(4, 6)$ lies on the graph of $y = f(x)$. Define $g(x) = f(x - 1) + 3$. State the coordinates of the corresponding point on the graph of $y = g(x)$.

Answer: _____

11. Let $f(x) = \sqrt{x}$. Define $g(x) = -2 \cdot f(x)$. Find $g(9)$.

Answer: _____

12. The function f is odd and $f(3) = 7$. Find $f(-3)$.

Answer: _____