

- _____ 6. Given $f(x) = 2x - 5$ and $g(x) = 6x^2$, what are $(f \circ g)(x)$ and $(g \circ f)(x)$?
- a. $(f \circ g)(x) = 30x^3 - 12x^2$; $(g \circ f)(x) = 30x^3 - 12x^2$
- b. $(f \circ g)(x) = 12x^2 - 5$; $(g \circ f)(x) = 30x^3 - 12x^2$
- c. $(f \circ g)(x) = 12x^2 - 5$; $(g \circ f)(x) = 24x^2 - 120x + 150$
- d. $(f \circ g)(x) = 30x^3 - 12x^2$; $(g \circ f)(x) = 24x^2 - 120x + 150$
- _____ 7. Given $f(x) = 7x - 8$ and $g(x) = 8x^2$, what are $f(x) + g(x)$ and $f(x) - g(x)$?
- a. $f(x) + g(x) = 8x^2 + 7x - 8$; $f(x) - g(x) = -8x^2 - 7x + 8$
- b. $f(x) + g(x) = 8x^2 + 7x + 8$; $f(x) - g(x) = -8x^2 + 7x + 8$
- c. $f(x) + g(x) = -8x^2 + 7x - 8$; $f(x) - g(x) = 8x^2 - 7x + 8$
- d. $f(x) + g(x) = 8x^2 + 7x - 8$; $f(x) - g(x) = -8x^2 + 7x - 8$
- _____ 8. Let $f(x) = x^2 - 4$ and $g(x) = -3x^2$. Find $f(g(x))$.
- a. $-3x^4 + 12$
- b. $-3x^4 + 24x^2 - 48$
- c. $9x^4 - 4$
- d. $-3x^4 - 4$
- _____ 9. Identify the vertex of $g(x) = (x + 14)^2 - 8$.
- a. $(-14, -8)$
- b. $(-14, 8)$
- c. $(14, -8)$
- d. $(14, 8)$
- _____ 10. Write the quadratic function $c(x) = x^2 - 16x + 84$ in vertex form.
- a. $c(x) = (x - 16)^2 - 172$
- b. $c(x) = (x - 8)^2 + 20$
- c. $c(x) = (x - 8)^2 + 84$
- d. $c(x) = (x - 8)^2 + 148$
- _____ 11. What is the minimum or maximum of $g(x) = 9x^2 - 6x + 1$?
- a. minimum at $\left(\frac{1}{3}, 0\right)$
- b. maximum at $\left(\frac{1}{3}, 0\right)$
- c. minimum at $(3, 0)$
- d. maximum at $(3, 0)$
- _____ 12. What is a quadratic function in standard form having zeros of 5 and -2 ?
- a. $f(x) = (x - 5)(x + 2)$
- b. $f(x) = x^2 + 3x + 10$
- c. $f(x) = x^2 - 3x - 10$
- d. $f(x) = (x + 5)(x - 2)$

**Unit 4 Part 2 Review Sheet
Answer Section**

MULTIPLE CHOICE

1. B
2. A
3. A
4. B
5. C
6. C
7. D
8. C
9. A
10. B
11. A
12. C