

## COMPOSITE FUNCTION Worksheet

Evaluate each composite value

1. If  $f(x) = 3x - 5$  and  $g(x) = x^2$ , find  $(f \circ g)(3)$

2. If  $f(x) = -9x - 9$  and  $g(x) = \sqrt{x - 9}$ , find  $(f \circ g)(10)$

3. If  $f(x) = -4x + 2$  and  $g(x) = \sqrt{x - 8}$ , find  $(f \circ g)(12)$

4. If  $f(x) = -3x + 4$  and  $g(x) = x^2$ , find  $(g \circ f)(-2)$

5. If  $f(x) = -2x + 1$  and  $g(x) = \sqrt{x^2 - 5}$ , find  $(g \circ f)(2)$

Find each composite.

6. Given  $f(x) = -9x + 3$  and  $g(x) = x^4$ , find  $(f \circ g)(x)$

7. Given  $f(x) = 2x - 5$  and  $g(x) = x + 2$ , find  $(f \circ g)(x)$

8. Given  $f(x) = x^2 + 7$  and  $g(x) = x - 3$ , find  $(f \circ g)(x)$

9. Given  $f(x) = 4x + 3$  and  $g(x) = x^2$ , find  $(g \circ f)(x)$

10. Given  $f(x) = x - 1$  and  $g(x) = x^2 + 2x - 8$ , find  $(g \circ f)(x)$

For #'s 11 – 14 ,  $h(x) = (f \circ g)(x)$

11. Let  $h(x) = (2x - 5)^2$  and  $f(x) = x^2$ , find  $g(x)$ .

12. Let  $h(x) = \sqrt{x - 5}$  and  $f(x) = \sqrt{x}$ , find  $g(x)$ .

13. Let  $h(x) = (5x + 1)^2 - (5x + 1)$  and  $f(x) = x^2 - x$ , find  $g(x)$ .

14. Let  $h(x) = \sqrt{(-3x - 2)^3}$  and  $f(x) = \sqrt{x}$ , find  $g(x)$ .