

COMPOSITE FUNCTION Worksheet

Evaluate each composite value

1. If $f(x) = 3x - 5$ and $g(x) = x^2$, find $(f \circ g)(3)$ and $(g \circ f)(3)$
2. If $f(x) = -9x - 9$ and $g(x) = \sqrt{x - 9}$, find $(f \circ g)(10)$ and $(f \circ f)(-2)$
3. If $f(x) = -4x + 2$ and $g(x) = \sqrt{x - 8}$, find $(f \circ g)(12)$ and $(f \circ f)(5)$
4. If $f(x) = -3x + 4$ and $g(x) = x^2$, find $(g \circ f)(-2)$ and $(f \circ g)(-2)$
5. If $f(x) = -2x + 1$, $g(x) = \sqrt{x^2 - 5}$, $h(x) = 5x$ find $(h \circ g \circ f)(2)$ and $f(4h(3))$

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 $(f \circ g)(x)$ and $(g \circ f)(x)$

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

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

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 $g(x)$.