

5-2 Skills Practice

Composition of Functions

For each pair of functions, find $f \circ g$ and $g \circ f$ if they exist.

1. $f = \{(0, 0), (4, -2)\}$

$g = \{(0, 4), (-2, 0), (5, 0)\}$

2. $f = \{(0, -3), (1, 2), (2, 2)\}$

$g = \{(-3, 1), (2, 0)\}$

Find $[g \circ h](x)$ and $[h \circ g](x)$ if they exist.

3. $g(x) = 2x$

$h(x) = x + 2$

4. $g(x) = x - 6$

$h(x) = x + 6$

5. $g(x) = x - 3$

$h(x) = x^2$

6. $g(x) = x + 2$

$h(x) = 2x^2 - 3$

If $f(x) = 3x$, $g(x) = x + 4$, and $h(x) = x^2 - 1$, find each value.

7. $f[g(1)]$

8. $g[f(-1)]$

9. $h[f(5)]$

10. $[f \circ (h \circ g)](1)$

11. $[f \circ (g \circ h)](-2)$

12. $f[h(0)]$