

Function Operations Worksheet B

1. Given $f(x) = -3x^2 - 2x + 4$ and $g(x) = 2x - 3$ find each of the following.

- a. $2f(3)$ b. $-f(x)$ c. $f(-2) + g(3)$
d. $g(f(x))$ e. $-3g(7)$ f. $f(-3) + g(-3)$

2. Given $f(x) = 3x + 6$ and $g(x) = 4x - 2$ find each of the following.

- a. $f(4) - g(2)$ b. $g(4x)$ c. $f(4x - 2)$
d. $f(2) \div g(1)$ e. $g(z + 1)$ f. $f(2x) - g(3x)$

3. Given $f(x) = 4x - 7$ and $g(x) = 5x + 6$ find each of the following.

- a. $f(5x + 6)$ b. $g(f(x))$ c. $f(x) \circ g(x)$
d. $(f - g)(6)$ e. $2f(3) - 3g(-4)$ f. $f(x) - 2g(x)$

4. Given $f(x) = 3x - 6$, $g(x) = x - 12$, and $h(x) = -2x - 5$ find each of the following.

- a. $f(a + b)$ b. $g(3x + 2)$ c. $h(x - 12)$
d. $f(g(x))$ e. $f(2) + g(2) + h(2)$ f. $f(6) + g(6)$

5. Given $f(x) = 2x + 3$, $g(x) = 7 - x$, and $h(x) = 3x - 2$ find each of the following.

- a. $f(x) + g(x) - h(x)$ b. $f(2) + g(2) - h(2)$ c. $f(g(x)) + h(x)$
d. $(f - g)(x)$ e. $f(a - b)$ f. $f(g(h(x)))$
g. $f(x) \div g(x)$ h. $f(12) \div g(16)$ i. $(f \circ h)(3)$