

## SM3-A HW #6-5 (Review)

Date \_\_\_\_\_

Period \_\_\_\_\_

**Evaluate each function.**

1)  $k(a) = a^2 + 2$ ; Find  $k(7)$

2)  $p(x) = 3|x + 2|$ ; Find  $p(10)$

**Perform the indicated operation.**

3) 
$$\begin{aligned} g(n) &= 3n - 1 \\ f(n) &= 4n - 2 \\ \text{Find } (g \circ f)(n) \end{aligned}$$

4) 
$$\begin{aligned} g(x) &= x + 3 \\ h(x) &= x^3 - 5x^2 \\ \text{Find } (g \circ h)(x) \end{aligned}$$

5) 
$$\begin{aligned} g(t) &= 4t + 1 \\ f(t) &= 3t + 2 \\ \text{Find } (g \circ f)(8) \end{aligned}$$

6) 
$$\begin{aligned} g(a) &= 2a - 4 \\ \text{Find } (g \circ g)(-1) \end{aligned}$$

7) 
$$\begin{aligned} g(n) &= -2n - 5 \\ h(n) &= -n - 2 \\ \text{Find } (g \circ h)(-8) \end{aligned}$$

8) 
$$\begin{aligned} g(x) &= 2x \\ h(x) &= 4x - 1 \\ \text{Find } (g + h)(x) \end{aligned}$$

9) 
$$\begin{aligned} f(x) &= -3x + 2 \\ g(x) &= x^2 + 2 \\ \text{Find } (f + g)(-7) \end{aligned}$$

10) 
$$\begin{aligned} g(n) &= 3n + 2 \\ h(n) &= n - 2 \\ \text{Find } (g \cdot h)(-1) \end{aligned}$$

$$11) \begin{aligned} f(x) &= 4x - 5 \\ g(x) &= x^3 + 3x^2 \\ \text{Find } \left(\frac{f}{g}\right)(x) \end{aligned}$$

$$12) \begin{aligned} h(x) &= 4x + 4 \\ g(x) &= 3x^2 - 3 \\ \text{Find } \left(\frac{h}{g}\right)(9) \end{aligned}$$

$$13) \begin{aligned} g(x) &= 3x + 4 \\ h(x) &= x^2 - 2 \\ \text{Find } (-2g + 2h)(x) \end{aligned}$$

$$14) \begin{aligned} f(x) &= 3x - 2 \\ g(x) &= x^3 + 1 \\ \text{Find } (5f + 4g)(-1) \end{aligned}$$

**Find the inverse of each function.**

$$15) \ g(x) = \frac{1}{x+1} + 1$$

$$16) \ f(x) = \sqrt[3]{x+1} + 2$$

$$17) \ g(x) = \frac{3}{7}x + \frac{12}{7}$$

$$18) \ f(x) = \frac{2}{x+3} + 2$$

$$19) \ g(x) = -\frac{3}{x-1} - 1$$

$$20) \ g(x) = -\frac{4x}{5}$$