

## Function Operations

**Perform the indicated operation.**

1)  $g(n) = n^2 + 4 + 2n$   
 $h(n) = -3n + 2$   
Find  $(g \cdot h)(1)$

2)  $f(x) = 4x - 3$   
 $g(x) = x^3 + 2x$   
Find  $(f - g)(4)$

3)  $h(x) = 3x + 3$   
 $g(x) = -4x + 1$   
Find  $(h + g)(10)$

4)  $g(a) = 3a + 2$   
 $f(a) = 2a - 4$   
Find  $\left(\frac{g}{f}\right)(3)$

5)  $g(x) = 2x - 5$   
 $h(x) = 4x + 5$   
Find  $g(3) - h(3)$

6)  $g(a) = 2a - 1$   
 $h(a) = 3a - 3$   
Find  $(g \cdot h)(-4)$

7)  $g(t) = t^2 + 3$   
 $h(t) = 4t - 3$   
Find  $(g \cdot h)(-1)$

8)  $g(n) = 3n + 2$   
 $f(n) = 2n^2 + 5$   
Find  $g(f(2))$

9)  $g(x) = -x^2 - 1 - 2x$   
 $f(x) = x + 5$   
Find  $(g - f)(x)$

10)  $f(x) = 3x - 1$   
 $g(x) = x^2 - x$   
Find  $\left(\frac{f}{g}\right)(x)$

11)  $g(a) = -3a - 3$   
 $f(a) = a^2 + 5$   
Find  $(g - f)(a)$

12)  $h(t) = 2t + 1$   
 $g(t) = 2t + 2$   
Find  $(h - g)(t)$

13)  $f(x) = 2x^3 - 5x^2$   
 $g(x) = 2x - 1$   
Find  $(f \cdot g)(x)$

14)  $h(n) = 4n + 5$   
 $g(n) = 3n + 4$   
Find  $(h - g)(n)$

15)  $g(a) = -3a^2 - a$   
 $h(a) = -2a - 4$   
Find  $\left(\frac{g}{h}\right)(a)$

16)  $f(n) = 2n$   
 $g(n) = -n - 4$   
Find  $(f \circ g)(n)$

17)  $h(a) = 3a$   
 $g(a) = -a^3 - 3$   
Find  $\left(\frac{h}{g}\right)(a)$

18)  $g(n) = 2n + 3$   
 $h(n) = n - 1$   
Find  $(g \circ h)(n)$

19)  $h(x) = x^2 - 2$   
 $g(x) = 4x + 1$   
Find  $(h \circ g)(x)$

20)  $g(t) = 2t + 5$   
 $f(t) = -t^2 + 5$   
Find  $(g + f)(t)$

21)  $g(x) = 2x - 2$   
 $f(x) = x^2 + 3x$   
Find  $(g \circ f)(-2 + x)$

22)  $g(a) = 2a + 2$   
 $h(a) = -2a - 5$   
Find  $(g \circ h)(-4 + a)$

## Function Operations

Perform the indicated operation.

$$1) \quad g(n) = n^2 + 4 + 2n$$

$$h(n) = -3n + 2$$

$$\text{Find } (g \cdot h)(1)$$

 $-7$ 

$$2) \quad f(x) = 4x - 3$$

$$g(x) = x^3 + 2x$$

$$\text{Find } (f - g)(4)$$

 $-59$ 

$$3) \quad h(x) = 3x + 3$$

$$g(x) = -4x + 1$$

$$\text{Find } (h + g)(10)$$

 $-6$ 

$$4) \quad g(a) = 3a + 2$$

$$f(a) = 2a - 4$$

$$\text{Find } \left(\frac{g}{f}\right)(3)$$

 $\frac{11}{2}$ 

$$5) \quad g(x) = 2x - 5$$

$$h(x) = 4x + 5$$

$$\text{Find } g(3) - h(3)$$

 $-16$ 

$$6) \quad g(a) = 2a - 1$$

$$h(a) = 3a - 3$$

$$\text{Find } (g \cdot h)(-4)$$

 $135$ 

$$7) \quad g(t) = t^2 + 3$$

$$h(t) = 4t - 3$$

$$\text{Find } (g \cdot h)(-1)$$

 $-28$ 

$$8) \quad g(n) = 3n + 2$$

$$f(n) = 2n^2 + 5$$

$$\text{Find } g(f(2))$$

 $41$ 

$$9) \quad g(x) = -x^2 - 1 - 2x$$

$$f(x) = x + 5$$

$$\text{Find } (g - f)(x)$$

 $-x^2 - 3x - 6$ 

$$10) \quad f(x) = 3x - 1$$

$$g(x) = x^2 - x$$

$$\text{Find } \left(\frac{f}{g}\right)(x)$$

 $\frac{3x - 1}{x^2 - x}$ 

$$11) \quad g(a) = -3a - 3$$

$$f(a) = a^2 + 5$$

$$\text{Find } (g - f)(a)$$

 $-a^2 - 3a - 8$ 

$$12) \quad h(t) = 2t + 1$$

$$g(t) = 2t + 2$$

$$\text{Find } (h - g)(t)$$

 $-1$

13)  $f(x) = 2x^3 - 5x^2$   
 $g(x) = 2x - 1$   
 Find  $(f \cdot g)(x)$

$$4x^4 - 12x^3 + 5x^2$$

14)  $h(n) = 4n + 5$   
 $g(n) = 3n + 4$   
 Find  $(h - g)(n)$

$$n + 1$$

15)  $g(a) = -3a^2 - a$   
 $h(a) = -2a - 4$   
 Find  $\left(\frac{g}{h}\right)(a)$

$$\frac{-3a^2 - a}{-2a - 4}$$

16)  $f(n) = 2n$   
 $g(n) = -n - 4$   
 Find  $(f \circ g)(n)$

$$-2n - 8$$

17)  $h(a) = 3a$   
 $g(a) = -a^3 - 3$   
 Find  $\left(\frac{h}{g}\right)(a)$

$$\frac{3a}{-a^3 - 3}$$

18)  $g(n) = 2n + 3$   
 $h(n) = n - 1$   
 Find  $(g \circ h)(n)$

$$2n + 1$$

19)  $h(x) = x^2 - 2$   
 $g(x) = 4x + 1$   
 Find  $(h \circ g)(x)$

$$16x^2 + 8x - 1$$

20)  $g(t) = 2t + 5$   
 $f(t) = -t^2 + 5$   
 Find  $(g + f)(t)$

$$-t^2 + 2t + 10$$

21)  $g(x) = 2x - 2$   
 $f(x) = x^2 + 3x$   
 Find  $(g \circ f)(-2 + x)$

$$2x^2 - 2x - 6$$

22)  $g(a) = 2a + 2$   
 $h(a) = -2a - 5$   
 Find  $(g \circ h)(-4 + a)$

$$-4a + 8$$