

## 1.6 Review Operations on Functions

**Perform the indicated operation.**

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

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

3)  $g(t) = -3t + 3$   
 $f(t) = t^2 - 2t$   
Find  $(g \cdot f)(t)$

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

5)  $f(t) = t - 4$   
 $g(t) = t - 5$   
Find  $(f \cdot g)(-7)$

6)  $g(x) = x^3 + x$   
 $f(x) = 4x - 3$   
Find  $(g + f)(0)$

7)  $f(x) = -3x + 2$   
 $g(x) = x^2 + x$   
Find  $\left(\frac{f}{g}\right)(-7)$

8)  $g(x) = -2x$   
 $h(x) = 2x - 1$   
Find  $(g - h)(-9)$

9)  $g(n) = 2n + 3$   
 $h(n) = n^3 + 1$   
Find  $(g - h)(-2n)$

10)  $f(n) = 3n - 4$   
 $g(n) = n^2 - 1$   
Find  $(f \cdot g)(n^2)$

## 1.6 Review Operations on Functions

**Perform the indicated operation.**

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

$f(x) = 3x - 1$

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

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

2)  $g(a) = 4a + 4$

$f(a) = a^3 - 2a$

Find  $(g - f)(a)$

$$-a^3 + 6a + 4$$

3)  $g(t) = -3t + 3$

$f(t) = t^2 - 2t$

Find  $(g \cdot f)(t)$

$$-3t^3 + 9t^2 - 6t$$

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

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

Find  $(g + h)(x)$

$$x^2 - 6x + 1$$

5)  $f(t) = t - 4$

$g(t) = t - 5$

Find  $(f \cdot g)(-7)$

$$132$$

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

$f(x) = 4x - 3$

Find  $(g + f)(0)$

$$-3$$

7)  $f(x) = -3x + 2$

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

Find  $\left(\frac{f}{g}\right)(-7)$

$$\frac{23}{42}$$

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

$h(x) = 2x - 1$

Find  $(g - h)(-9)$

$$37$$

9)  $g(n) = 2n + 3$

$h(n) = n^3 + 1$

Find  $(g - h)(-2n)$

$$8n^3 - 4n + 2$$

10)  $f(n) = 3n - 4$

$g(n) = n^2 - 1$

Find  $(f \cdot g)(n^2)$

$$3n^6 - 4n^4 - 3n^2 + 4$$