

**PRACTICE Quiz 9.5 - 9.6 Multiply & Divide Functions (1 pt each, 12 pts total)****Perform the indicated operation.**

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

2)  $g(x) = 2x$   
 $h(x) = x^2 - 2x$   
Find  $\left(\frac{g}{h}\right)(x)$

3)  $g(x) = x^2 + 5$   
 $f(x) = x + 4$   
Find  $(g \cdot f)(-2)$

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

5)  $h(t) = 4t$   
 $g(t) = t - 2$   
Find  $\left(\frac{h}{g}\right)(2t)$

6)  $g(x) = x - 3$   
 $f(x) = x^2 - 4$   
Find  $g(2x) \div f(2x)$

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

8)  $f(a) = -3a^2 - 5a$   
 $g(a) = 2a + 1$   
Find  $4f(a) + 2g(a)$

9)  $h(n) = 3n - 3$   
 $g(n) = n^3 - 3n$   
Find  $(4h + g)(1)$

10)  $f(a) = 4a$   
 $g(a) = 2a^2 - 4$   
Find  $(f \circ g)(-2)$

11)  $g(x) = -4x - 2$   
Find  $g\left(g\left(\frac{x}{3}\right)\right)$

12)  $f(x) = -x + 4$   
Find  $(f \circ f)(x + 1)$

## PRACTICE Quiz 9.5 - 9.6 Multiply &amp; Divide Functions (1 pt each, 12 pts total)

**Perform the indicated operation.**

$$1) \begin{aligned} h(t) &= 3t + 3 \\ g(t) &= t^3 + 4t^2 \\ \text{Find } (h \cdot g)(t) \end{aligned}$$

$$3t^4 + 15t^3 + 12t^2$$

$$2) \begin{aligned} g(x) &= 2x \\ h(x) &= x^2 - 2x \end{aligned}$$

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

$$\frac{2}{x-2}$$

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

$$18$$

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

$$\frac{2}{3}$$

$$5) \begin{aligned} h(t) &= 4t \\ g(t) &= t - 2 \\ \text{Find } \left(\frac{h}{g}\right)(2t) \end{aligned}$$

$$\frac{4t}{t-1}$$

$$6) \begin{aligned} g(x) &= x - 3 \\ f(x) &= x^2 - 4 \\ \text{Find } g(2x) \div f(2x) \end{aligned}$$

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

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

$$2x^2 + 8x - 2$$

8)  $f(a) = -3a^2 - 5a$   
 $g(a) = 2a + 1$   
Find  $4f(a) + 2g(a)$

$$-12a^2 - 16a + 2$$

9)  $h(n) = 3n - 3$   
 $g(n) = n^3 - 3n$   
Find  $(4h + g)(1)$

$$-2$$

10)  $f(a) = 4a$   
 $g(a) = 2a^2 - 4$   
Find  $(f \circ g)(-2)$

$$16$$

11)  $g(x) = -4x - 2$   
Find  $g\left(g\left(\frac{x}{3}\right)\right)$

$$\frac{18 + 16x}{3}$$

12)  $f(x) = -x + 4$   
Find  $(f \circ f)(x + 1)$

$$x + 1$$