

6-6 to 6-7 Practice 1

Date _____ Period _____

Perform the indicated operation.

$$1) \begin{aligned} f(a) &= a + 3 \\ g(a) &= a^2 + 3 \\ \text{Find } (f + g)(a) \end{aligned}$$

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

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

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

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

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

$$7) \begin{aligned} g(n) &= 2n + 3 \\ f(n) &= 2n - 5 \\ \text{Find } \left(\frac{g}{f}\right)(n) \end{aligned}$$

$$8) \begin{aligned} g(t) &= -2t + 3 \\ f(t) &= t^2 - 2 \\ \text{Find } \left(\frac{g}{f}\right)(t) \end{aligned}$$

9) $g(x) = -x + 5$
 $h(x) = x^2 + 4$
Find $(g \circ h)(x)$

10) $f(n) = 3n - 2$
 $g(n) = n + 4$
Find $(f \circ g)(n)$

11) $f(a) = a + 3$
 $g(a) = 3a^2 + 2 + a$
Find $(f \circ g)(a)$

12) $g(x) = 3x + 4$
 $h(x) = 2x + 1$
Find $(g \circ h)(x)$

Find the inverse of each function.

13) $h(x) = 5x + 10$

14) $f(x) = \frac{-2x + 8}{5}$

15) $f(x) = \sqrt[5]{x + 2} - 2$

16) $f(x) = -1 + x^3$