

SM2-A HW #11-1 (combining functions)

Perform the indicated operation.

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

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

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

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

$$5) \begin{aligned} f(n) &= 3n + 5 \\ g(n) &= 4n + 1 \\ \text{Find } (f \cdot g)(n) \end{aligned}$$

$$6) \begin{aligned} g(a) &= 3a - 2 \\ h(a) &= 3a^2 - a \\ \text{Find } (g \cdot h)(a) \end{aligned}$$

$$7) \begin{aligned} g(t) &= -3t - 3 \\ f(t) &= 2t - 5 \\ \text{Find } (g \cdot f)(-5) \end{aligned}$$

$$8) \begin{aligned} g(x) &= x - 2 \\ f(x) &= x^2 + 1 \\ \text{Find } \left(\frac{g}{f}\right)(x) \end{aligned}$$

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

$$10) \begin{aligned} g(t) &= 3t + 4 \\ h(t) &= -t + 2 \\ \text{Find } \left(\frac{g}{h}\right)(-2) \end{aligned}$$

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

12) $g(t) = 4t - 5$
 $h(t) = t - 2$
Find $(-4g - 5h)(t)$

13) $h(t) = -2t - 3$
 $g(t) = t^2 + 3t$
Find $(2h + 2g)(t)$

14) $f(n) = -n^3 - 4$
 $g(n) = -2n - 3$
Find $(5f + 2g)(n)$

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

16) $h(x) = 4x - 3$
 $g(x) = x^2 + 3$
Find $(h - g)(1)$