

SM3-A HW #6-2 (combining functions)

Date _____ Period _____

Perform the indicated operation.

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

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

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

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

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

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

$$7) \begin{aligned} g(t) &= 3t + 4 \\ h(t) &= -t + 2 \\ \text{Find } \left(\frac{g}{h}\right)(-2) \end{aligned}$$

$$8) \begin{aligned} g(t) &= 4t - 5 \\ h(t) &= t - 2 \\ \text{Find } (-4g - 5h)(t) \end{aligned}$$

$$9) \begin{aligned} g(x) &= x^2 + x \\ h(x) &= 3x \\ \text{Find } (-3g + 5h)(-5) \end{aligned}$$

$$10) \begin{aligned} h(x) &= 4x - 3 \\ g(x) &= x^2 + 3 \\ \text{Find } (h - g)(1) \end{aligned}$$

$$11) \begin{aligned} g(a) &= 3a + 3 \\ \text{Find } (g \circ g)(a) \end{aligned}$$

$$12) \begin{aligned} g(n) &= n^3 + 5n^2 - 2n \\ f(n) &= 2n + 4 \\ \text{Find } (g \circ f)(n) \end{aligned}$$

Find the "zeroes" of the equations.

13) $y = x^2 - 24$

14) $y = 2x^2 + 16$

15) What is the equation of a line through: $(5, 7)$ and perpendicular to the line $y = \frac{2}{3}x - 5$

16) Find the zeroes.

$$y = -3(x - 4)^2 + 6$$

17) Find the zeroes.

$$y = 4(x + 5)^2 + 36$$