

Combining Functions Homework

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Date_____ Period____

Perform the indicated operation.

1)
$$\begin{aligned} h(x) &= x - 4 \\ g(x) &= x^2 - 6x \\ \text{Find } (h + g)(x) \end{aligned}$$

2)
$$\begin{aligned} g(a) &= 2a \\ h(a) &= a + 4 \\ \text{Find } (g + h)(a) \end{aligned}$$

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

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

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

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

7)
$$\begin{aligned} g(a) &= a + 1 \\ f(a) &= a^3 + 3a \\ \text{Find } (g - f)(a) \end{aligned}$$

8)
$$\begin{aligned} g(x) &= 4x - 4 \\ f(x) &= x^2 - 2x \\ \text{Find } (g - f)(x) \end{aligned}$$

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

10)
$$\begin{aligned} g(n) &= 3n - 3 \\ f(n) &= n^2 + 2n \\ \text{Find } (g \cdot f)(n) \end{aligned}$$

11)
$$\begin{aligned} g(n) &= n + 5 \\ f(n) &= -n^2 - 4n \\ \text{Find } (g \cdot f)(n) \end{aligned}$$

12)
$$\begin{aligned} g(x) &= x + 4 \\ h(x) &= x^3 + 3 \\ \text{Find } (g \cdot h)(x) \end{aligned}$$

13)
$$\begin{aligned} g(x) &= 3x - 5 \\ h(x) &= x^2 - 2 \\ \text{Find } \left(\frac{g}{h}\right)(x) \end{aligned}$$

14)
$$\begin{aligned} h(x) &= 2x^2 - 1 \\ g(x) &= 3x - 3 \\ \text{Find } \left(\frac{h}{g}\right)(x) \end{aligned}$$

15)
$$\begin{aligned} g(n) &= 4n + 4 \\ h(n) &= 2n + 3 \\ \text{Find } \left(\frac{g}{h}\right)(n) \end{aligned}$$

16)
$$\begin{aligned} g(x) &= x^2 - 3 \\ f(x) &= 2x - 4 \\ \text{Find } \left(\frac{g}{f}\right)(x) \end{aligned}$$

17)
$$\begin{aligned} h(n) &= 4n - 2 \\ g(n) &= -2n + 1 \\ \text{Find } (h \circ g)(n) \end{aligned}$$

18)
$$\begin{aligned} g(a) &= -4a - 1 \\ h(a) &= 3a \\ \text{Find } (g \circ h)(a) \end{aligned}$$

19)
$$\begin{aligned} g(x) &= 3x^2 - 2x \\ h(x) &= 3x - 1 \\ \text{Find } (g \circ h)(x) \end{aligned}$$

20)
$$\begin{aligned} h(t) &= t^2 - 5 \\ g(t) &= -4t - 4 \\ \text{Find } (h \circ g)(t) \end{aligned}$$

Answers to Combining Functions Homework (ID: 1)

1) $x^2 - 5x - 4$

9) $2x^4 - 2x^3 + 4x - 4$

17) $-8n + 2$

3) $7n - 5$

11) $-n^3 - 9n^2 - 20n$

19) $27x^2 - 24x + 5$

5) $-x + 4$

13) $\frac{3x - 5}{x^2 - 2}$

7) $-a^3 - 2a + 1$

15) $\frac{4n + 4}{2n + 3}$