Candle Center - Infinite Precalculus Name_____

Function Operations

Date_____ Period____

Perform the indicated operation.

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

2) $h(n) = -n^3 - 2n$
$g(n) = -2n - 1$
Find $\left(\frac{h}{g}\right)(-4)$

3) $f(t) = 2t - 3$
$g(t) = t^3 + t$
Find $(f \cdot g)(0)$

4) $g(n) = -n + 5$
$f(n) = n^2 - 1$
Find $(g \circ f)(6)$

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

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

7) $h(x) = -x + 5$
$g(x) = -3x - 2$
Find $\left(\frac{h}{g}\right)(x)$

8) $g(x) = 4x - 2$
$h(x) = x^2 - 5x$
Find $g(x) - h(x)$

9) $f(x) = 2x + 5$
$g(x) = 2x + 3$
Find $(f + g)(x)$

10) $h(t) = 2t - 2$
$g(t) = 4t + 4$
Find $(h \cdot g)(t)$

11) $g(t) = t^2 - 2$
$f(t) = 4t + 4$
Find $g(t) \div f(t)$

12) $h(n) = 2n + 1$
$g(n) = n - 2$
Find $h(n) - 5g(n)$

13) $g(n) = 3n + 1$
$h(n) = 2n - 3$
Find $(-4g + 5h)(-2n)$

14) $h(n) = 3n - 1$
$g(n) = 4n - 2$
Find $(h \circ g)(4 + n)$

15) $g(t) = 4t + 4$
$f(t) = t^2 + 2t$
Find $(g - f)\left(\frac{t}{2}\right)$

16) $g(t) = 4t - 3$
$f(t) = t^3 - 2$
Find $(g + f)(-t)$

Find f and g so that $h(x) = (f \circ g)(x)$. Neither function may be the identity function $f(x) = x$.

17) $h(x) = \frac{5}{x^2} + 1$

18) $h(x) = \left(\sqrt{x} + 1\right)^2$

19) $h(x) = \sqrt{5x + 1} + 1$

20) $h(x) = 3^{\sqrt{x} + 1}$

21) $h(x) = \left(\sqrt{x} + 3\right)^2$

22) $h(x) = \frac{4}{x^2} + 2$

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Function Operations

Date_____ Period____

Perform the indicated operation.

1) $f(x) = 3x + 4$
$g(x) = -2x^2 - 4$
Find $(f + g)(8)$
-104

2) $h(n) = -n^3 - 2n$
$g(n) = -2n - 1$
Find $\left(\frac{h}{g}\right)(-4)$
$\frac{72}{7}$

3) $f(t) = 2t - 3$
$g(t) = t^3 + t$
Find $(f \cdot g)(0)$
0

4) $g(n) = -n + 5$
$f(n) = n^2 - 1$
Find $(g \circ f)(6)$
-30

5) $g(x) = x + 2$
$f(x) = x^3 - 2x$
Find $(g \cdot f)(-4)$
112

6) $g(x) = x^2 + 2$
$h(x) = 3x - 2$
Find $(g + h)(-3)$
0

7) $h(x) = -x + 5$
$g(x) = -3x - 2$
Find $\left(\frac{h}{g}\right)(x)$
$\frac{-x + 5}{-3x - 2}$

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

9) $f(x) = 2x + 5$
$g(x) = 2x + 3$
Find $(f + g)(x)$
$4x + 8$

10) $h(t) = 2t - 2$
$g(t) = 4t + 4$
Find $(h \cdot g)(t)$
$8t^2 - 8$

11) $g(t) = t^2 - 2$
$f(t) = 4t + 4$
Find $g(t) \div f(t)$
$\frac{t^2 - 2}{4t + 4}$

12) $h(n) = 2n + 1$
$g(n) = n - 2$
Find $h(n) - 5g(n)$
$-3n + 11$

13) $g(n) = 3n + 1$
$h(n) = 2n - 3$
Find $(-4g + 5h)(-2n)$
$4n - 19$

14) $h(n) = 3n - 1$
$g(n) = 4n - 2$
Find $(h \circ g)(4 + n)$
$12n + 41$

15) $g(t) = 4t + 4$
$f(t) = t^2 + 2t$
Find $(g - f)\left(\frac{t}{2}\right)$
$\frac{4t + 16 - t^2}{4}$

16) $g(t) = 4t - 3$
$f(t) = t^3 - 2$
Find $(g + f)(-t)$
$-t^3 - 4t - 5$

Find f and g so that $h(x) = (f \circ g)(x)$. Neither function may be the identity function $f(x) = x$.

17) $h(x) = \frac{5}{x^2} + 1$
$f(x) = \frac{5}{x} + 1$
$g(x) = x^2$

18) $h(x) = (\sqrt{x} + 1)^2$
$f(x) = x^2$
$g(x) = \sqrt{x} + 1$

19) $h(x) = \sqrt{5x + 1} + 1$
$f(x) = \sqrt{x} + 1$
$g(x) = 5x + 1$

20) $h(x) = 3^{\sqrt{x} + 1}$
$f(x) = 3^x$
$g(x) = \sqrt{x} + 1$

21) $h(x) = (\sqrt{x} + 3)^2$
$f(x) = x^2$
$g(x) = \sqrt{x} + 3$

22) $h(x) = \frac{4}{x^2} + 2$
$f(x) = \frac{4}{x} + 2$
$g(x) = x^2$