

3-2 Quiz Review 2

Perform the indicated operation.

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

2) $g(n) = 2n - 3$
 Find $(g \circ g)(6)$

3) $h(x) = x + 1$
 $g(x) = 4x + 5$
 Find $(h \circ g)(5)$

4) $h(a) = -2a - 5$
 $g(a) = -3a^2 - a$
 Find $g(h(-4))$

5) $f(n) = 2n - 1$
 Find $f(f(n))$

6) $g(n) = n^2 + 2n$
 $h(n) = n - 3$
 Find $(g \circ h)(n)$

7) $g(a) = a^2 + 4a$
 $h(a) = a + 1$
 Find $(g \circ h)(a)$

8) $g(n) = 2n + 3$
 $h(n) = n^2 + 3$
 Find $g(h(n))$

State if the given functions are inverses.

9) $f(n) = (n - 2)^3$
 $g(n) = 2(n - 2)^3$

10) $g(x) = -\frac{5}{4}x - 5$
 $f(x) = -4 - \frac{4}{5}x$

$$11) \begin{aligned} f(x) &= -x^5 \\ g(x) &= -\sqrt[5]{x} \end{aligned}$$

$$12) \begin{aligned} f(n) &= \sqrt[3]{n-2} \\ g(n) &= 2 + (n+2)^5 \end{aligned}$$

Find the inverse of each function.

$$13) f(x) = \frac{1}{x} - 3$$

$$14) g(x) = \frac{1}{x+2} - 3$$

$$15) g(n) = -n - 5$$

$$16) f(x) = \sqrt[5]{\frac{-x+2}{2}}$$

Perform the indicated operation.

$$17) \begin{aligned} h(x) &= 3x + 2 \\ g(x) &= 3x^2 + 5x \\ \text{Find } (g \circ h)(2) \end{aligned}$$

$$18) \begin{aligned} g(x) &= 2x - 4 \\ h(x) &= x^2 - 1 \\ \text{Find } (g \circ h)(5) \end{aligned}$$

$$19) \begin{aligned} h(n) &= 4n - 5 \\ g(n) &= 4n \\ \text{Find } (h \circ g)(n) \end{aligned}$$

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

$$21) \begin{aligned} h(x) &= 3x - 4 \\ g(x) &= 4x \\ \text{Find } (h \circ g)(x) \end{aligned}$$

$$22) \begin{aligned} h(n) &= n + 1 \\ g(n) &= -2n^2 - n \\ \text{Find } (h \circ g)(n) \end{aligned}$$

Answers to 3-2 Quiz Review 2 (ID: 1)

1) 68

5) $4n - 3$

9) No

13) $f^{-1}(x) = \frac{1}{x+3}$

17) 232

21) $12x - 4$

2) 15

6) $n^2 - 4n + 3$

10) Yes

14) $g^{-1}(x) = \frac{1}{x+3} - 2$

18) 44

22) $-2n^2 - n + 1$

3) 26

7) $a^2 + 6a + 5$

11) Yes

15) $g^{-1}(n) = -n - 5$

19) $16n - 5$

4) -30

8) $2n^2 + 9$

12) No

16) $f^{-1}(x) = -2x^5 + 2$

20) $-4n^2 - 6n + 4$