

2.9 Inverses (& Compositions) Homework

Date _____ Period _____

Find the inverse of each function.

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

2) $f(x) = \sqrt[3]{x} + 2$

3) $g(x) = \frac{x+4}{3}$

4) $g(x) = -2 + (x+2)^5$

5) $f(x) = 2x + 2$

6) $h(x) = -\frac{1}{x-2} + 2$

State if the given functions are inverses.

7) $g(x) = -x^3 - 2$
 $f(x) = \sqrt[3]{-x-2}$

8) $f(x) = x - 1$
 $g(x) = 2 + \frac{4}{3}x$

Perform the indicated operation.

9) $h(t) = 2t^2 + 1$
 $g(t) = 2t + 5$
Find $h(g(t))$

10) $g(a) = -4a - 5$
 $f(a) = a^2 + 3a$
Find $(g \circ f)(a)$

11) $g(x) = 4x + 2$
 $h(x) = -3x^2 + 2x$
Find $(g \circ h)(x)$

12) $h(x) = x^3 - 3x$
 $g(x) = x - 3$
Find $h(g(x))$

13) $f(x) = 3x - 5$
 $g(x) = 2x^3 - 2x^2$
Find $(f \circ g)(3)$

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

15) $f(a) = a^2 - 3a$
 $g(a) = 2a - 4$
Find $(f \circ g)(4)$

16) $f(n) = 3n + 5$
 $g(n) = 4n - 4$
Find $f(g(-1))$