

## Function Composition

**Perform the indicated operation.**

1)  $h(n) = 4n + 5$   
 $g(n) = 2n - 4$   
Find  $(h \circ g)(-9)$

2)  $g(n) = 2n + 5$   
 $h(n) = n + 1$   
Find  $(g \circ h)(-8)$

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

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

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

6)  $h(t) = 3t + 1$   
 $g(t) = t + 3$   
Find  $h(g(7))$

7)  $g(n) = 2n - 1$   
 $f(n) = 3n^2 + 5$   
Find  $(g \circ f)(-2)$

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

9)  $g(t) = 2t + 5$   
 $f(t) = t^2 - 2t$   
Find  $g(f(t))$

10)  $g(x) = x + 4$   
 $f(x) = x^2 - 1$   
Find  $(g \circ f)(x)$

11)  $f(x) = -2x^2 - x$   
 $g(x) = -x + 5$   
Find  $(f \circ g)(x)$

12)  $f(n) = n^2 + n$   
 $g(n) = -n + 5$   
Find  $f(g(n))$

13)  $h(x) = 2x + 5$   
 $g(x) = 4x + 1$   
Find  $(h \circ g)(x)$

14)  $g(a) = a + 4$   
 $f(a) = -2a - 4$   
Find  $(g \circ f)(a)$

15)  $f(a) = a^2 - 5$   
 $g(a) = a + 2$   
Find  $f(g(a))$

## Answers to Function Composition

1)  $-83$

5)  $47$

9)  $2t^2 - 4t + 5$

13)  $8x + 7$

2)  $-9$

6)  $31$

10)  $x^2 + 3$

14)  $-2a$

3)  $3$

7)  $33$

11)  $-2x^2 + 21x - 55$

15)  $a^2 + 4a - 1$

4)  $6$

8)  $4t^3 - 12t + 2$

12)  $n^2 - 11n + 30$