Function Evaluation, Operations, and Composition

Date_____ Period____

CLASS EXAMPLES: Evaluate each function.

1) $w(x) = -4x + 5$; Find $w(10)$

2) $g(n) = -4n - 1$; Find $g(n - 2)$

Evaluate each function.

3) $k(a) = 2a - 4$; Find $k(-3)$

4) $f(x) = x^2 + x$; Find $f(8)$

5) $w(n) = n^3 + 4$; Find $w(2)$

6) $f(x) = 2x$; Find $f(-2x)$

7) $p(x) = -3x + 2$; Find $p(t - 4)$

8) $w(x) = 4x - 5$; Find $w(x + 4)$

CLASS EXAMPLES: Perform the indicated operation.

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

10) $g(t) = t - 4$
$h(t) = 3t - 3$
Find $(g - h)(t)$

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

12) $g(n) = 3n$
$f(n) = n - 4$
Find $(g - 4f)(n)$

Perform the indicated operation.

13) $g(x) = 4x - 1$
$h(x) = x^2 - 4x$
Find $(g \cdot h)(x)$

14) $f(n) = -4n - 4$
$g(n) = 4n + 4$
Find $(f - g)(n)$

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

16) $g(x) = 3x - 4$
$h(x) = x + 3$
Find $g(x) + h(x)$

17) $h(x) = 4x + 1$
$g(x) = 2x - 4$
Find $(h - 3g)(x)$

18) $h(x) = 2x - 4$
$g(x) = x^2 - 6x$
Find $4h(x) - 5g(x)$

CLASS EXAMPLES: Composition of Functions - Perform the indicated operation.

19) $h(a) = 2a + 1$
$g(a) = 4a - 2$
Find $h(g(2))$

20) $g(x) = 3x - 4$
$f(x) = x^2 - x$
Find $(g \circ f)(-1)$

21) $f(a) = 4a - 1$
$g(a) = 2a^2 + 3$
Find $f(g(a))$

22) $g(n) = 4n + 2$
$f(n) = n^2 + 5n$
Find $(g \circ f)(n)$

Perform the indicated operation.

23) $g(x) = 4x - 3$
Find $g(g(-1))$

24) $g(x) = 4x$
$h(x) = x - 1$
Find $g(h(3))$

25) $g(t) = 4t - 1$
$f(t) = t^2 + 5$
Find $g(f(1))$

26) $g(a) = -a - 3$
$h(a) = a^2 - 5$
Find $(g \circ h)(a)$

27) $h(x) = 4x + 4$
$g(x) = -3x^3 + 5x$
Find $(h \circ g)(x)$

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

Answers to Function Evaluation, Operations, and Composition (ID: 1)

1) -35
3) -10
5) 12
7) $-3t + 14$
9) $-n^2 + 5n - 2$
11) $4x^3 - 3x^2 + 12x - 9$
13) $4x^3 - 17x^2 + 4x$
15) $-3x^3 + 4x^2$
17) $-2x + 13$
19) 13
21) $8a^2 + 11$
23) -31
25) 23
27) $-12x^3 + 20x + 4$