Algebra 2

Name_____

T4 Review: Functions and Factoring

Evaluate each function.

1) $g(a) = -2a + 5$; Find $g(8)$

2) $f(x) = -2x^2 - 4$; Find $f(-3)$

3) $f(a) = 4a + 5$; Find $f(a - 2)$

4) $h(n) = n - 4$; Find $h(-3n)$

Perform the indicated operation.

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

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

7) $g(x) = x^3 - 5x^2$
$h(x) = 3x + 3$
Find $(g \cdot h)(0)$

8) $h(t) = t - 1$
$g(t) = 3t - 5$
Find $\left(\dfrac{h}{g}\right)(-8)$

9) $g(a) = -3a$
$h(a) = -2a + 4$
Find $g(h(0))$

10) $g(n) = n^3 + 3n^2$
$f(n) = 3n$
Find $(g + f)(n)$

11) $g(t) = 2t - 1$
$h(t) = t - 4$
Find $(g - h)(t)$

12) $g(t) = t^2 + 3$
$h(t) = 3t$
Find $g(t) \cdot h(t)$

13) $g(n) = 3n - 3$
    $h(n) = -3n - 4$
    Find $g(n) \div h(n)$

14) $f(n) = -4n + 1$
    $g(n) = n^3 + 1 - n$
    Find $(f \circ g)(n)$

Use the graph to find the following.

15) $(f \circ h)(0)$

16) $g(h(-2))$

17) $(h \circ f)(-2)$

18) $g(h(f(2)))$

Factor only the GCF from each polynomial.

19) $42x^3 + 60x^2$

20) $4p^3 - 14p^2 - 60p$

21) $15v^2 + 21v - 72$

Factor each completely.

22) $v^2 + 14v + 45$

23) $n^2 + n - 20$

24) $p^2 - 8p$

25) $9x^2 - 4$

26) $4b^2 - 49$

27) $25x^2 - 16$