Algebra 2 Name Master Eg

Day 1 Operations with Functions Practice

Date

Perform the indicated operation.

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

$t^2 - 4 + 2t + 5$
$t^2 + 2t + 1$

2) $g(x) = 4x - 4$
$h(x) = 2x - 5$
Find $g(x) + h(x)$

$4x - 4 + 2x - 5$
$6x - 9$

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

$3x + 3 - (x^2 - 4x)$
$3x + 3 - x^2 + 4x$
$-x^2 + 7x + 3$

4) $g(n) = 3n - 4$
$h(n) = 3n - 1$
Find $g(n) - h(n)$

$3n - 4 - (3n - 1)$
$3n - 4 - 3n + 1$
-3

5) $g(n) = -n + 2$
$f(n) = 2n + 1$
Find $(g \cdot f)(n)$

$(-n + 2)(2n + 1)$
$-2n^2 - n + 4n + 2$
$-2n^2 + 3n + 2$

6) $h(n) = 4n + 1$
$g(n) = 2n - 1$
Find $h(n) \cdot g(n)$

$(4n + 1)(2n - 1)$
$8n^2 - 4n + 2n - 1$
$8n^2 - 2n - 1$

7) $f(n) = -3n^2 - 4$
$g(n) = 3n + 3$
Find $f(n) \div g(n)$

$\frac{-3n^2 - 4}{3n + 3}$ or $\frac{-(3n^2 + 4)}{3(n + 1)}$

$n \neq 1$!

8) $h(t) = -3t^2 - 3$
$g(t) = t + 5$
Find $h(t) \div g(t)$

$\frac{-3t^2 - 3}{t + 5} = \frac{-3(t^2 + 1)}{t + 5}$

$t \neq -5$!

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

$g(n^3 - 5n)$
$4(n^3 - 5n) + 4$
$4n^3 - 20n + 4$

10) $f(n) = n^2 - 2n$
$g(n) = 3n - 2$
Find $(f \circ g)(n)$

$f(3n - 2)$
$(3n - 2)^2 - 2(3n - 2)$
$9n^2 - 12n + 4 - 6n + 4$
$9n^2 - 18n + 8$

$(3n - 2)(3n - 2)$
$9n^2 - 6n - 6n + 4$