Functions: Operations and Compositions 2
Algebra 2

For 1 - 2, evaluate the following functions for $c(3)$, $c(-2)$, $c(x^2)$, and $c(2x - 1)$.
1) $c(x) = 5x - 9$
2) $c(x) = 3x^2 + 2x - 4$

For 3 - 6, use $f(x) = 3x + 2$ and $g(x) = x - 7$.

3) Find $(f + g)(x)$
4) Find $(f - g)(x)$
5) Find $(f \bullet g)(x)$
6) Find $\left(\dfrac{f}{g}\right)(x)$

For 7 - 10, use $p(x) = x^2 - 4x$ and $q(x) = 3x - 12$.

7) Find $(p + q)(x)$
8) Find $(p - q)(x)$
9) Find $(p \bullet q)(x)$
10) Find $\left(\dfrac{p}{q}\right)(x)$

For 11 - 14, use $t(x) = x^2 - 25$ and $v(x) = 3x - 15$.

11) Find $(t + v)(x)$
12) Find $(t - v)(x)$
13) Find $(t \bullet v)(x)$
14) Find $\left(\dfrac{t}{v}\right)(x)$

For 15 - 22, use $f(x) = x - 2$, $g(x) = -4x$, $j(x) = 2x + 5$, and $k(x) = x^2 + 1$.
15) $(f \circ g)(x)$
16) $(g \circ f)(x)$
17) $(f \circ j)(x)$
18) $(k \circ g)(x)$

19) $(f \circ g)(-1)$
20) $(f \circ k)(-3)$
21) $(g \circ j)(2)$
22) $(k \circ f)(3)$