Name: _____ Date: _____

Unit: Functions **CW: Compositions of Functions**

1) If $f(x) = 5x^2 - 1$ and $g(x) = 3x - 1$, find $g(f(1))$.

2) If $f(x) = 2x + 4$ and $g(x) = x^2 + 1$, find $(f \circ g)(3)$.

3) If $f(x) = 2x - 5$ and $g(x) = \sqrt{x}$, evaluate $(f \circ g)(36)$.

4) If $f(x) = \dfrac{2}{\sqrt{5 - x^2}}$ and $g(x) = x + 1$, evaluate $(f \circ g)(0)$.

5) If $f(x) = x^2 + 4$ and $g(x) = 2x + 3$, find $f(g(-2))$.

6) If $f(x) = 5x - 2$ and $g(x) = \sqrt[3]{x}$, find $(f \circ g)(-8)$.

7) If $f(x) = 2^x - 1$ and $g(x) = x^2 - 1$, find $(f \circ g)(3)$.

8) If $f(x) = x - 2$ and $g(x) = x^2$, find $f(g(3))$.

9) If $f(x) = 3x - 5$ and $g(x) = x - 9$, find $(f \circ g)(x)$.

10) If $f(x) = x^2 - 5$ and $g(x) = 6x$, find $g(f(x))$.

11) If $f(x) = 3x + 5$ and $g(x) = x^2 + 1$, find $g(f(x))$.

12) If $f(x) = \frac{2}{x+3}$ and $g(x) = \frac{1}{x}$, then $(g \circ f)(x)$

13) If $f(x) = 2x - 1$ and $g(x) = 3x + 5$, find $(f \circ g)(x)$

14) If $f(x) = x^2$ and $g(x) = 2x + 1$ find$(f \circ g)(x)$?

15) Given: $f(x) = \sqrt{2x+5}$ and $g(x) = 6x - 3$,

a. Find $g(f(10))$

b. Find $(f \circ g)(x)$.

16) If $f(x) = x^{\frac{2}{3}}$ and $g(x) = 8x^{-\frac{1}{2}}$,

a. Find $(f \circ g)(x)$

Find$(f \circ g)(27)$.