Use the given functions f and g find $f + g$, $f - g$, $f \times g$ and $\frac{f}{g}$ and find domain

1. $f(x) = 6x + 10$ $g(x) = 3x^2 + x - 10$ 2. $f(x) = \sqrt{9 - x^2}$ $g(x) = 3 + x$

Evaluate Functions

Let $f(x) = x^2 - 9$ and $g(x) = 2x + 6$ Find the following:

1. $(f + g)(5)$ 2. $(fg)(-1)$ 3. $\left(\frac{f}{g}\right)(4)$

Form Composite Functions: $f(g(x)) =$ _____

                                        $g(f(x)) =$ _____

Let $f(x) = x^2 - 3x$ and $g(x) = 2x + 1$

Find the following:

1) $f(g(x))$ 2) $g(f(x))$

Let $f(x) = -x^3 - 7$ and $g(x) = x + 1$

Find the following:

3) $f(g(x))$

4) $g(f(x))$

Evaluate a composite function

Let $f(x) = x^2 + 4$ and $g(x) = 2x - 7$

Find the following:

1) $f(g(3))$

2) $g(f(3))$

3) $f(g(x))$

4) $g(f(x))$