1. Use the pair of functions $f$ and $g$ to find the following values if they exist.

$f(x) = 3x + 1$ and $g(x) = 4 - x$

(a) $(f + g)(2)$

(b) $(g - f)(1)$

(c) $(fg)(\frac{1}{2})$

(d) $(\frac{f}{g})(0)$

2. Use the pair of functions $f$ and $g$ to find the following functions.

$f(x) = 3x + 1$ and $g(x) = 4 - x$

(a) $(f + g)(x)$

(b) $(fg)(x)$

(c) $(\frac{f}{g})(x)$
3. Let $f(x) = 2x - 5$. Find and simplify the difference quotient, $\frac{f(x + h) - f(x)}{h}$.

4. Let $f(x) = 3x^2 - x$. Find and simplify the difference quotient, $\frac{f(x + h) - f(x)}{h}$.