Name : _____

Function Operations

Mul/Div: MS1

A) 1) If $f(x) = \frac{3}{2}x + 5$ and $g(x) = 2x^3 - 4x$, find $(g \cdot f)(x)$.

2) If $f(x) = x^2 - 9$ and $g(x) = \frac{1}{7}$, find $\left(\frac{f}{g}\right)(x)$.

B) If $f(x) = \frac{1}{5}$ and $g(x) = \frac{8}{5}x^3 - 10x^2 + 15$; find the following.

i) $\frac{g(x)}{f(x)}$

ii) $f(x) \cdot g(x)$

C) 1) If $f(x) = -7x - 14$ and $g(x) = 4x^2 - 1$, find $\frac{f(6)}{g(6)}$.

D) If $f(x) = \frac{4}{3}x^2 + 5x$ and g

i) $f\left(\frac{1}{2}\right) \cdot g\left(\frac{1}{2}\right)$

E) 1) Which of the following represents $(f \cdot g)(x)$, if $f(x) = 9x^2 - 6x$ and $g(x) = \frac{1}{3}$?

i) $-27x^3 + 18x$ ii) $3x^3 - 2x$ iii) $-3x^3 + 2x$ iv) $27x^3 - 18x$

2) Which of the following represents $\frac{g(2)}{f(2)}$, if $f(x) = -x^2 + 4x$ and $g(x) = \frac{5}{2}x + 3$?

i) 4 ii) −4 iii) 2 iv) −2