Name : _____

Function Operations

MS3

A) 1) If $f(x) = \frac{5}{3}x^2 - 5x$ and $g(x) = \frac{1}{3}x^2 + 9$, find $g(x) + f(x)$.

2) If $f(x) = 6x^3 - 7x^2$ and $g(x) = x - \frac{7}{6}$, find $\left(\frac{f}{g}\right)(x)$.

B) If $f(x) = \frac{3}{4}x - 12 + 8x^2$ and $g(x) = -\frac{1}{4}x$; find the following.

i) $(g - f)(x)$

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

C) 1) If $f(x) = -1 - x$ and g $(x) = \frac{4}{5}x^3$, find $\left(\frac{g}{f}\right)\left(-\frac{1}{8}\right)$.

D) If $f(x) = -10x^2 + 13$ and

i) $g(2) \cdot f(2)$

E) 1) Which of the following represents $\frac{}{g(5)}$, if $f(x) = \frac{}{9}$ and $g(x) = x - 6$?

i) $\frac{7}{9}$ ii) $-\frac{5}{9}$ iii) $\frac{5}{9}$ iv) $-\frac{7}{9}$

2) Which of the following represents $(g + f)(x)$, if $f(x) = -x^3 - \frac{8}{7}$ and $g(x) = -\frac{6}{7} + x^2$?

i) $-x^3 + x^2 - 2$ ii) $x^3 + x^2 + 2$ iii) $7x^3 + 7x^2 - 2$ iv) $-7x^3 + x^2 + 2$

Name : _____

Answer key

MS3

Function Operations

A) 1) If $f(x) = \frac{5}{3}x^2 - 5x$ and $g(x) = \frac{1}{3}x^2 + 9$, find $g(x) + f(x)$.

$2x^2 - 5x + 9$

2) If $f(x) = 6x^3 - 7x^2$ and $g(x) = x - \frac{7}{6}$, find $\left(\frac{f}{g}\right)(x)$.

$6x^2$

B) If $f(x) = \frac{3}{4}x - 12 + 8x^2$ and $g(x) = -\frac{1}{4}x$; find the following.

i) $(g - f)(x)$

$-8x^2 - x +$

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

$x^2 + 3x$

C) 1) If $f(x) = -1 - x$ and g

$(x) = \frac{4}{5}x^3$,

find $\left(\frac{g}{f}\right)\left(-\frac{1}{8}\right)$.

$-\frac{9}{8}$ or $-$

$12\frac{3}{5}$

D) If $f(x) = -10x^2 + 13$ and

i) $g(2) \cdot f(2)$

-135

30

E) 1) Which of the following represents $\frac{}{g(5)}$, if $f(x) = \frac{}{9}$ and $g(x) = x - 6$?

i) $\frac{7}{9}$ ii) $-\frac{5}{9}$ iii) $\frac{5}{9}$ iv) $-\frac{7}{9}$ ✓

2) Which of the following represents $(g + f)(x)$, if $f(x) = -x^3 - \frac{8}{7}$ and $g(x) = -\frac{6}{7} + x^2$?

i) $-x^3 + x^2 - 2$ ✓ ii) $x^3 + x^2 + 2$ iii) $7x^3 + 7x^2 - 2$ iv) $-7x^3 + x^2 + 2$