Name : _____

Function Operations

Add/Sub: ES1

A) 1) If $f(x) = 7x + 5$ and $g(x) = 2x^2 - 5$, find $f(x) + g(x)$.

2) If $f(x) = 6x^2 + 3$ and $g(x) = 4$, find $(g - f)(x)$.

B) If $f(x) = -3x^2 + 13$ and $g(x) = x^3 + 8x^2 - 2$; find the following.

i) $(g + f)(x)$

ii) $f(x) - g(x)$

C) 1) If $f(x) = -9$ and $g(x) = -10 + x$, find $(g - f)(-7)$.

2) If $f(x) = -2x - 14$ and $g(x) = 5x + x^2$, find $f(6) + g(6)$.

D) If $f(x) = -4x + 15$ and $g(x) = 7x^3$; find the following.

i) $g(-3) + f(-3)$

ii) $(f - g)(2)$

E) 1) Which of the following represents $(g + f)(10)$, if $f(x) = x^2 + 1$ and $g(x) = -x^2 - 9x$?

i) 89 ii) −89 iii) −91 iv) 91

2) Which of the following represents $f(x) - g(x)$, if $f(x) = -11 + x$ and $g(x) = 8x^2 + 3x - 12$?

i) $-8x^2 - 2x + 23$ ii) $8x^2 + 4x - 1$ iii) $8x^2 + 4x - 23$ iv) $-8x^2 - 2x + 1$

Name : _____ **Answer key**

Function Operations

Add/Sub: ES1

A) 1) If $f(x) = 7x + 5$ and $g(x) = 2x^2 - 5$, find $f(x) + g(x)$.

$2x^2 + 7x$

2) If $f(x) = 6x^2 + 3$ and $g(x) = 4$, find $(g - f)(x)$.

$-6x^2 + 1$

B) If $f(x) = -3x^2 + 13$ and $g(x) = x^3 + 8x^2 - 2$; find the following.

i) $(g + f)(x)$

$x^3 + 5x^2 + 11$

ii) $f(x) - g(x)$

$-x^3 - 11x^2 + 15$

C) 1) If $f(x) = -9$ and $g(x) = -10 + x$, find $(g - f)(-7)$.

−8

2) If $f(x) = -2x - 14$ and $g(x) = 5x + x^2$, find $f(6) + g(6)$.

40

D) If $f(x) = -4x + 15$ and $g(x) = 7x^3$; find the following.

i) $g(-3) + f(-3)$

−162

ii) $(f - g)(2)$

−49

E) 1) Which of the following represents $(g + f)(10)$, if $f(x) = x^2 + 1$ and $g(x) = -x^2 - 9x$?

i) 89 ii) ✓ −89 iii) −91 iv) 91

2) Which of the following represents $f(x) - g(x)$, if $f(x) = -11 + x$ and $g(x) = 8x^2 + 3x - 12$?

i) $-8x^2 - 2x + 23$ ii) $8x^2 + 4x - 1$ iii) $8x^2 + 4x - 23$ iv) ✓ $-8x^2 - 2x + 1$