

## Evaluating Composition of Three Functions

A) If  $f(x) = \frac{9}{x-4}$ ,  $g(x) = 2x^2 - x + 1$  and  $h(x) = -5$ , evaluate the following.

1)  $h\left(g\left(f\left(-\frac{5}{7}\right)\right)\right)$

2)  $f\left(h\left(h\left(\frac{3}{8}\right)\right)\right)$

B) If  $f(x) = 3x^2 - 2$ ,  $g(x) = x + 1$  and  $h(x) = -4x$ , evaluate the following.

1)  $(f \circ g \circ h)\left(\frac{3}{4}\right)$

C) If  $f(x) = 2x^3 - 9x - 7$ ,  $g(x) = x + 1$  and  $h(x) = -2x$ , evaluate the following.

1)  $(g \circ (f \circ h))\left(\frac{1}{4}\right)$

3) Is  $(g \circ (f \circ h))\left(\frac{1}{4}\right) \neq$

D) 1) If  $f(x) = 2^{3x}$ ,  $g(x) = x - 6$  and  $h(x) = 4x + 7$ , which of the following represents  $(h \circ g \circ f)\left(\frac{1}{3}\right)$ ?

i) 1

ii) -1

iii) 2

iv) -2

2) If  $f(x) = 8x + 15$ ,  $g(x) = x - 9$  and  $h(x) = x + 3$ , which of the following represents  $f\left(h\left(g\left(-\frac{5}{4}\right)\right)\right)$ ?

i) -56

ii) 56

iii) -43

iv) 43

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