

## Evaluating Composition of Two Functions

A) If  $f(x) = 7$ ,  $g(x) = -9x$  and  $h(x) = x(x - 3) - 4$ , evaluate the following.

1)  $h\left(g\left(-\frac{1}{9}\right)\right)$

2)  $f\left(h\left(\frac{5}{3}\right)\right)$

B) If  $g(x) = 3x^3$ ,  $f(x) = \sqrt[3]{4x+1}$  and  $h(x) = \frac{-12}{8x-1}$ , evaluate the following.

1)  $(g \circ f)\left(\frac{9}{4}\right)$

C) If  $h(x) = 5$  and  $g(x) =$

1)  $(h \circ g)\left(-\frac{3}{8}\right)$

3) Is  $(h \circ g)\left(-\frac{3}{8}\right) = (g \circ h)\left(-\frac{3}{8}\right)$ ?

D) 1) If  $f(x) = 6 \log_e x$  and  $h(x) = e$ , which of the following represents  $f\left(h\left(\frac{1}{3}\right)\right)$ ?

i) 12

ii) 9

iii) 2

iv) 3

2) If  $g(x) = 17$  and  $f(x) = 5x^6 - 3x^4$ , which of the following represents  $(g \circ f)\left(-\frac{1}{5}\right)$ ?

i) 17

ii) 13

iii) -17

iv) 11

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