

## Evaluating Composition of Two Functions

A) If  $f(x) = \frac{2x}{3-x}$ ,  $g(x) = 2x^2 - 4x + 4$  and  $h(x) = \frac{x}{8}$ , evaluate the following.

1)  $h(f(-3))$

2)  $h(g(1))$

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B) If  $f(x) = 14$ ,  $g(x) = 5x^4 + 1$  and  $h(x) = x^2 - x$ , evaluate the following.

1)  $(g \circ g)(0)$

2)  $(h \circ f)(0)$

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C) If  $f(x) = x - 6$  and  $g(x) = x^2 + 3$ , evaluate the following.

1)  $(f \circ g)(-9)$

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3) Is  $(f \circ g)(-9) = (g \circ f)(-9)$ ?

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D) 1) If  $g(x) = 8x - 1$  and  $h(x) = \frac{1}{3^x - 1}$ , which of the following represents  $g(h(2))$ ?

i) -1

ii) 4

iii) 2

iv) 0

2) If  $f(x) = \log_{10} x$  and  $h(x) = x^3 + 9x$ , which of the following represents  $(h \circ f)(10)$ ?

i) 9

ii) 10

iii) -1

iv) 1

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