

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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Evaluating Composition of Three Functions

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

-5
-1

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

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

10
or $3\frac{2}{3}$

C) If $f(x) = 2x^3 - 9x - 7$, $g(x) = x^2 + 5$ and $h(x) = 2x$, evaluate the following.

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

-959
959

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

False

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

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