

Composition of Two Functions

A) If $f(x) = -7$, $g(x) = x + 3$ and $h(x) = x^2 + 2x$, find the following.

1) $h(f(n + 1))$

2) $g(g(-t))$

B) If $f(x) = \sqrt{x}$, $g(x) = 8x^2 + 9$ and $h(x) = x^3 - 10$, find the following.

1) $(g \circ f)(-2b)$

C) If $g(x) = \frac{11}{x-1}$ and $h(x) = 2x^2 + 3x - 5$

1) $(g \circ h)(a^2)$

3) Is $(g \circ h)(a^2) \neq (h \circ g)(a^2)$?

D) 1) If $f(x) = 5x + 6$ and $g(x) = \frac{x}{5}$, which of the following represents $f(g(u))$?

i) $5u + 6$

ii) $u + 6$

iii) $u + 15$

iv) $u + 30$

2) If $g(x) = 4x^2$ and $h(x) = -7x - 15$, which of the following represents $(h \circ g)\left(\frac{s}{2}\right)$?

i) $-7s^2 - 15$

ii) $-7s - 15$

iii) $-7s^2 + 15$

iv) $7s^2 - 15$

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2) $g(g(-t))$

35 $-t + 6$

B) If $f(x) = \sqrt{x}$, $g(x) = 8x^2 + 9$ and $h(x) = x^3 - 10$, find the following.

1) $(g \circ f)(-2b)$

 $-16b +$ -10

C) If $g(x) = \frac{11}{x-1}$ and $h(x) = x^2 + 1$, find the following.

1) $(g \circ h)(a^2)$

112

3) Is $(g \circ h)(a^2) \neq (h \circ g)(a^2)$?

True

D) 1) If $f(x) = 5x + 6$ and $g(x) = \frac{x}{5}$, which of the following represents $f(g(u))$?

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