

March 2, 2016

Composite Functions

Input \circledast \rightarrow f \rightarrow g \rightarrow Output \circledast

$f(x) = 3x + 2$
 $3(6) + 2 = 18 + 2 = 20$

$g(x) = 5x$
 $5(20) = 100$

$(g \circ f)(x)$

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$f(x) = \frac{1}{x}$ $g(x) = 2x + 4$

$(f \circ g)(x) = f(g(x))$
 $= \frac{1}{(2x + 4)}$

Domain: $(-\infty, -2) \cup (-2, \infty)$

$2x + 4 = 0$
 $2x = -4$
 $x = -2$

A B
 $(-\infty, -2) \cup (-2, \infty)$

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$(g \circ f)(x) = g(f(x))$
 $= \frac{2}{f} \left(\frac{1}{x} \right) + 4$
 $= \frac{2}{x} + 4$
 $= \frac{2 + 4x}{x}$

D: $(-\infty, 0) \cup (0, \infty)$ $x \neq 0$

Mar 2-11:12 AM

(Empty box)

Mar 2-11:17 AM