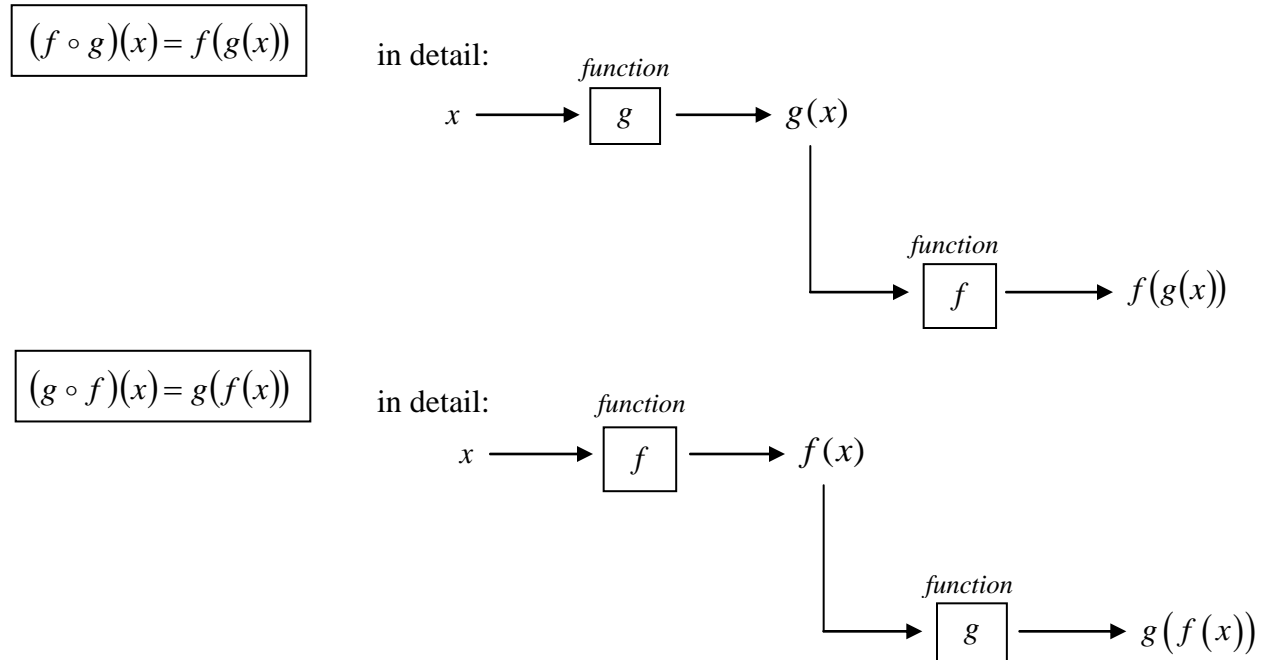


**Composite Functions:**

Let  $f(x)$  and  $g(x)$  be given functions, then



*Example 1:* a) Let  $f(x) = 2x - 3$  and  $g(x) = x^2$

Evaluate  $(f \circ g)(3)$

b) Let  $f(x) = 2x - 3$  and  $g(x) = x^2$

Give  $(f \circ g)(x)$

c) Let  $f(x) = 2x - 3$  and  $g(x) = x^2$

Evaluate  $(g \circ f)(-2)$

d) Let  $f(x) = 2x - 3$  and  $g(x) = x^2$

Give  $(g \circ f)(x)$  and simplify as much as possible.

*Example 2:* a) Let  $f(x) = \sqrt{x+1}$  and  $g(x) = x^2 - 5$

Give  $(f \circ g)(x)$  and simplify.

b) Let  $f(x) = \sqrt{x+1}$  and  $g(x) = x^2 - 5$

Give  $(g \circ f)(x)$  and simplify as much as possible.