## MAT 012 Lecture Notes, Ch 12.1: Composition of Functions

## **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  $(g \circ f)(-2)$ 

## MAT 012 Lecture Notes, Ch 12.1: Composition of Functions 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.