

## I. Composite Function (p.677):

$$(f \circ g)(\mathbf{x}) = f[g(\mathbf{x})] \quad \text{composition of } f(\mathbf{x}) \text{ with } g(\mathbf{x})$$

## II. Examples (p.686): Exercises #4,10,12

## III. Inverse Function (p.680):

1. If  $(f \circ g)(\mathbf{x}) = \mathbf{x} = (g \circ f)(\mathbf{x})$  then  $f(\mathbf{x})$  and  $g(\mathbf{x})$  are inverse functions (*i.e.*, they reverse the effects of each other)
2.  $f^{-1}(\mathbf{x})$  denotes a function that is the inverse of  $f(\mathbf{x})$

## IV. Examples (p.686): Exercises #18,20,24

## V. Procedure for finding $f^{-1}(\mathbf{x})$

1. Switch the variables “ $\mathbf{x}$ ” and “ $\mathbf{y}$ ”
2. Solve the resulting equation for “ $\mathbf{y}$ ”

## VI. Examples (p.687): Exercises #30,32,40,42

HW: pp.686-687 / Exercises#3,7,9,11,13,15,19,21,  
25,29,31,33,39,41

Read pp.691-699 (section 9.3)