Class Discussion

Unit 1 Topic 6 Part 1 Inverse Function

Objectives: Verification of the Inverse Functions

Definition of 1 to 1 functions:

f is a 1 to 1 function if $f(a) = f(b) \Rightarrow a = b$

Qualification:

f and g must be 1 to 1 functions.

Verification of function f and g are a pair of inverse functions:

Algebraically: $f \circ g = g \circ f = x$

Graphically: f and g is symmetrical to $y = x$

Ex: Given

$f(x) = (x+3)^2, x \geq -3$, $g(x) = \sqrt{x} - 3, x \geq 0$

(1) find the range of f and g

(2) graph both f and g on the same coordinate plane

(3) verify that f and g algebraically as well as graphically that f and g are a pair of inverse functions