

Assignment #8: Due Friday, 12/4/09 (NEW DUE DATE)  
(CORRECTED VERSION)

**Part II:**

4. Eccles, pages 113–114, Exercises 9.3, 9.5.
5. Let  $f: X \rightarrow Y$  be a function. A function  $g: Y \rightarrow X$  is called a *left inverse* for  $f$  if  $g \circ f = \text{Id}_X$ , and it is called a *right inverse* for  $f$  if  $f \circ g = \text{Id}_Y$ .
  - (a) If there exists a right inverse for  $f$ , prove that  $f$  is surjective.
  - (b) If there exists a left inverse for  $f$ , prove that  $f$  is injective.