Name: _____ **Student#:** _____**Date:** _____

COMP 2711: Discrete Mathematical Tools for Computer Science

In Class Exercise #3

1. **A real number is rational if and only if it can be written as $\frac{a}{b}$, where *a* and *b* are integers. Let *x* and *y* be two real numbers such that xy $\neq$ 0.**

   (a) Show, by contraposition, that if *x* is irrational, then $x^{\frac{1}{5}}$ is irrational.
   (b) Show, by contradiction, that if *x* is irrational and *xy* is rational, then *y* is irrational

   Answer: