**207 Chapter 3 Proof Questions**

**#1.**

Prove that the following two statements are not logically equivalent. In your proof, completely justify your answer.

(a) A real number is less than 1 only if its reciprocal is greater than 1.

(b) Having a reciprocal greater than 1 is a sufficient condition for a real number to be less than 1.

**Proof:**

**#2.**

Prove that the following is a valid argument:

All real numbers have nonnegative squares.

The number *i* has a negative square.

Therefore, the number *i* is not a real number.

**Proof:**