Math 301
Quiz 5

10 points possible.

1. (5 pts.) Fill in the blanks in the following proof that there is no least positive real number.

Proof. Suppose not. Suppose that there is a real number x such that x is positive and __(a)__ for all positive real numbers y. Consider the number $x/2$. Then __(b)__ because x is positive, and $x/2 < x$ because __(c)__. Hence __(d)__, which is a contradiction. $\otimes$

(a)

(b)

(c)

(d)

2. (5 pts.) Prove the following proposition by contraposition.

Proposition. *Given any integer n, if n^2 is even, then n is even.*

Typeset by $\mathcal{A}\mathcal{M}\mathcal{S}$-TEX