

Name: _____

Quiz #2

Math 220

September 18, 2003

1. [4 points]

(a) Write out the truth table for the statement form $\neg(P \vee (\neg Q))$.

(b) Write down another statement form that is logically equivalent to $\neg(P \vee (\neg Q))$.

2. [2 points] Write the negation of the following statement. (Your answer should of course be simplified beyond “It is not the case that...”)

There is a real number x so that $x \neq 0$ and $\sin(x) = x$.

3. [(a) 1 points; (b) 3 points] Consider the statement $P =$ “For every real number x , we have $x^2 - 2x + 1 \geq 0$.”

(a) Write down the negation of P .

(b) Prove P or $\neg P$.