

# Math 204- Discrete Mathematics, Spring 2010

Quiz 1, March 1, 2010, 17:40 group

Time: 20 minutes

*Write your solutions clearly, provide explanation, etc.*

*Do not forget to write your name and ID No on top of the page!*

**Problem 1 (8 pts).** Show that the following logical equivalence holds:

$$p \implies (q \implies r) \equiv (p \wedge q) \implies r$$

**Problem 2 (4 pts each).** Provide enough explanation in your solutions for the following problems!

a. Show that if  $r > 1$ , then  $r^2 > r$ .

b. State the converse and the contrapositive of the statement above.

c. Prove or disprove the converse statement.