

Math 204- Discrete Mathematics, Spring 2010

Quiz 1, March 1, 2010, 15:40 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:

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

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

a. If a and b are odd numbers, then show that $a + b$ is even.

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

c. Prove or disprove the converse statement.