

**MATH 302 Discrete Mathematics**  
**Assignment 2.    Due on Wednesday, September 16, 2009**

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**Read:** Sections 3.2, 1.1, and 1.2.

**Definition:** Write down the definitions for the following terms.

**proposition**

**truth value**

**converse, contrapositive, and inverse**

**tautology**

**contradiction**

**Problems to be graded:**

§3.2/ 16, 38.

§1.1/ 7, 24

§1.2/ 18, 22, 30.

In addition, do

1. Use a truth table to verify the second De Morgan law

$$\neg(p \vee q) \equiv \neg p \wedge \neg q.$$

2. Simplify the proposition

$$(p \vee q) \wedge \neg(\neg p \wedge q).$$

**Practice problems:**

§1.1 Page 16: 3, 4, 9, 10, 14, 18, 30.

§1.2 Page 28: 5, 8, 12, 34, 54.