

**MATH 302 Discrete Mathematics**  
**Assignment 3.**      Due on Wednesday, February 8, 2012  
**6th edition of the textbook**

---

**Read:** Sections 1.3 and 1.4

**Definition:** Write down the definitions for the following terms. [5 points]

**the universal quantification of  $P(x)$ , universal quantifier,**  
**counterexample**

**the existential quantification of  $P(x)$ , existential quantifier**

**De Morgan's Laws for Quantifiers** (Just write down the logical  
equivalence)

**Problems to be graded:** [10 points]

    §1.3/ 6, 9, 12, 25, 44, 46.

    §1.4/ 14, 24, 30, 40.

**Practice problems:**

    §1.3/ 7, 10, 11, 13, 14, 21, 23, 26, 33, 34, 36, 41, 47.

    §1.4/ 2, 3, 11, 27, 31, 33, 39.