CSCE 235 **Sep 1, 00**

Quiz #1

Question 1: (12 points) Let $A = \{1\}$ and $B = \{1, 2\}$ be subsets of the universal set $X = \{1, 2, 3\}$. Do *only 4* of the following 5 parts:

(a) $A \setminus B$

(b) $A \oplus B$.

(c) $A \times B$

(d) A^c.

(e) The power set of B.

Question 2: Decide whether the following statements are true or false. If the satement is false, then bring a counterexample. If it is true, prove it. You need to do **only 2** of the following 3 parts:

(a) (4 points) n is an even integer $\Longrightarrow \frac{n}{2}$ is an even integer.

(b) (4 points) Let A and B be any subsets of a universal set X. If $A \subseteq B$, then $A^c \subseteq B^c$.

(c) (4 points) If A and B are any subsets of a universal set X, then $A \setminus B = A \setminus (A \cap B)$.