

CSE 321: Discrete Structures
Assignment #2
October 8, 2004
Due: Friday, October 15

Reading Assignment: Section 1.5 and handout on logic.

Problems:

1. Give the negation of each of the following statements:
 - All good students study hard.
 - No males give birth to their young.
 - No students in mathematics are unable to use a computer.
 - $\forall x \exists y x = y^2$
2. Section 1.3, exercise 58. Part e) is **extra credit**.
3. Section 1.4, exercise 12, parts d) through l).
4. Section 1.4, exercise 28.
5. Section 1.4, exercise 30, parts c) and d).
6. Define predicates and a universe of discourse to show that this statement

$$\forall x(P(x) \rightarrow Q(x))$$

is not equivalent to

$$\forall x P(x) \rightarrow \forall x Q(x).$$

7. Section 1.5, exercise 4.
8. **Extra Credit:** Section 1.2, exercise 46.