

**University of South Carolina**  
**Math 221: Math for Elementary Educators**  
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**Section 001**  
**Spring 2010**

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**Logical Statements**

For problems 1 and 2

- a. draw a Venn diagram that represents the claim
- b. negate the claim in words
- c. draw a Venn diagram of the negation
- d. decide which whether the original claim or the negation is true (justify your answer)
  1. Every prime number is odd.
  2. Some odd numbers are divisible by 6.

For problems 3, 4, and 5

- a. fill out a truth table for the claim
- b. negate the claim in words
- c. fill out a truth table for the negation
3. Love is blind and rabbits like disco.
4. The Universe is expanding or clowns are scary.
5. If free will exists, then I can change my mind.

For problem 6

- a. give the inverse, converse, and contrapositive of the claim
- b. decide which of the implications (including the original claim) is true (justify your answer)
6. If  $x$  is divisible by 4, then  $x$  is divisible by 2.