Name _____   Date _____   Period _____

Writing Conditional Statements

Lesson Objective

Conditional Statement: A conditional statement is a logical statement that has two parts, a _____,
and a _____.
   ➔   When a conditional statement is written, it is written in _____ form.
      o   The "_____" part contains the _____
      o   The "_____" part contains the _____

Example: Use one color to highlight the hypothesis, and another color to highlight the conclusion. Then, write the
statement in "If-Then" form, if it isn't already given in that form.
   1. If you are in New York City, then you are in the United States.

   2. You are in Texas if you are in Houston.

   3. All 30° angles are acute angles.

Negation: The negation of a statement is the _____ of the original statement.
   ➔ To write the negation of statement *p*, you write the **symbol for negation** (_____) before the letter

   Words: **Symbol:**

Example: Write the negation of each statement.
   4. The ball is red.   5. The cat is *not* black.

Related Conditionals

Consider the conditional statement:

   Words: If *p*, then *q*.   **Symbols**: *p* ➔ *q*

   Converse: To write the converse of a conditional statement, _____ the _____
   and _____

      Words: **Symbols**:

   Inverse: To write the inverse of a conditional statement, _____ the _____
   and _____

      Words: **Symbols:**

<u>Contrapositive</u>: To write the contrapositive of a conditional statement, first write the _____.
Then, _____ the _____ and _____.

Words: **Symbols**:

Example:
6. Let *p* be "you are a guitar player" and let *q* be "you are a musician." Write each statement in words. Then decide whether each is *true* or *false* by circling either T or F.

   a.   The Conditional Statement (T / F)

   b. The Converse (T / F)

   c. The Inverse (T / F)

   d. The Contrapositive (T / F)

Example:
7. Let *p* be "the stars are visible" and let *q* be "it is night." Write each statement in words. Then decide whether each is *true* or *false* by circling either T or F.

   a.   The Conditional Statement (T / F)

   b. The Converse (T / F)

   c. The Inverse (T / F)

   d. The Contrapositive (T / F)