
For each of the following problems, assume that p is a false statement and q is a true statement. Circle T if the given statement is true and F if the statement is false. There is no partial credit on this part of the quiz.

1. T F $p \rightarrow q$

Since p is false, this conditional statement is **true**, no matter what the truth value of q is.

2. T F $(p \wedge q) \rightarrow \sim q$

Since p is false and q is true, $p \wedge q$ is false, automatically making the conditional statement **true**.

3. T F $(p \vee q) \rightarrow (p \wedge q)$

Since p is false and q is true, $p \vee q$ is true. The consequent $(p \wedge q)$ is false, so this conditional statement is **false**.

4. T F $\sim q \rightarrow (p \vee q)$

Since q is true, $\sim q$ is false, making this conditional statement **true**.

Complete the following problems. Use the original conditional statement “If you lead, I will follow” for each of the following.

5. Write the converse of the statement.

If I follow, you will lead.

6. Write the contrapositive of the statement.

If I don't follow, you won't lead.

7. Which of the above statements is equivalent to the original?

The contrapositive is equivalent to the original statement.