
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 $\sim q$

Since q is a true statement, its negation, $\sim q$ is false.

2. T F $p \vee q$

Since q is a true statement and an “or” statement only needs one part to be true in order to be true, $p \vee q$ is true.

3. T F $p \wedge \sim q$

Again, since q is true, $\sim q$ is false. Therefore, we have an “and” statement with two false statements, making the “and” statement false.

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

$\sim q$ is false, and p is false, making the “or” statement, $p \vee \sim q$, false. Therefore, the negation of this is true.

Complete the following problems. Find a truth table for each of the following:

5. $p \vee \sim q$

p	q	$\sim q$	$p \vee \sim q$
T	T	F	T
T	F	T	T
F	T	F	F
F	F	T	T

6. $(p \vee \sim q) \wedge \sim p$

p	q	$\sim q$	$p \vee \sim q$	$\sim p$	$(p \vee \sim q) \wedge \sim p$
T	T	F	T	F	F
T	F	T	T	F	F
F	T	F	F	T	F
F	F	T	T	T	T