

ProofSpace Comprehension Quiz

Preliminaries

Conditional Statements

1 Complete the following truth table:

P	Q	$P \Rightarrow Q$
T	T	_____
T	F	_____
F	T	_____
F	F	_____

2 Complete the following truth table:

P	Q	R	$P \Rightarrow (Q \wedge R)$
T	T	T	_____
T	T	F	_____
T	F	T	_____
T	F	F	_____
F	T	T	_____
F	T	F	_____
F	F	T	_____
F	F	F	_____

3 Complete the following truth table:

P	Q	R	$(P \wedge Q) \Rightarrow R$
T	T	T	_____
T	T	F	_____
T	F	T	_____
T	F	F	_____
F	T	T	_____
F	T	F	_____
F	F	T	_____
F	F	F	_____

4 Decide if the following statements are true or false. Rely on your prior knowledge about even and odd numbers.

- a) If Albany is the capital of New York, then Geneseo is a SUNY School.
- b) If Neptune is a planet, then Germany is a country in South America.
- c) If Seoul is the capital of the United States, then Accra is the capital of Ghana.
- d) If 3 is odd, then 9 is odd.
- e) If 3 is even, then 73 is odd.
- f) If 12 is odd, then 9 is odd.
- g) If 19 is odd, then 26 is even.

4 Consider the sentence “If $x = 3$, then $2x = 5$ ”.

- a) For what values of x is the statement false?
- b) For what values of x is it true?