

Math 2283 - Introduction to Logic

Quiz #3 - 2015.08.31 Solutions

1. If a sentential function contains n variables, how many rows will appear in the corresponding truth table?

There will be 2^n rows in the truth table.

2. Determine which values satisfy the following sentential function:

$$\mathbf{E}_x y = x^2 - 4$$

The values which make this sentence true are $y \geq 4$.

3. Formulate the following sentential functions in symbolic logic:

(a) *If not p , then q or p , and q .*

$$(\sim p \rightarrow q \vee p) \wedge q$$

(b) *If not p , then q , or p and q .*

$$(\sim p \rightarrow q) \vee (p \wedge q)$$