Math 2283 - Introduction to Logic

Quiz #13 - 2012.11.30

Solutions

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1. Described what a closed system consists of, and what the implications of a closed system are.

A closed system consists of a set of true conditional statements $p_i \to q_i$, $1 \leq i \leq n$, where the antecedents (the p_i's) are exhaustive, and the consequents (the q_i's) are exclusive. In a closed system the converse statements $q_i \to p_i$, $1 \leq i \leq n$, are also true.

2. Write down the definition of a binary operation O being monotonic in a class K with respect to the relation R.

$$\underset{x,y,z}{\mathbf{A}}\, y\, R\, z \to (x\, O\, y)\, R\, (x\, O\, z)$$