

Math 2283 - Introduction to Logic

Quiz #7 - 2008.10.09

Name: _____

Consider the set $\mathbf{D} = \{0, 1, 2\}$ and define the class \mathbb{K} to be the class of all possible subsets of \mathbf{D} , explicitly given as

$$\mathbb{K} = \{\{0\}, \{1\}, \{2\}, \{0, 1\}, \{0, 2\}, \{1, 2\}, \{0, 1, 2\}, \{\}\}.$$

We now define the relation \subseteq for two elements x, y of the class \mathbb{K} by:

$$x \subseteq y \leftrightarrow (x \subset y) \vee (x = y).$$

Note: This relation is very similar to the relation of inclusion, however we now have the added property of possible equality.

Determine which of the properties: reflexive, irreflexive, symmetric, asymmetric, transitive and connected, the relation \subseteq has with respect to the class \mathbb{K} .