

Math 2283 - Introduction to Logic

Quiz #10 - 2017.03.20 Solutions

Determine which of the following are valid sentential functions. Here, you may assume that R , S , and T are relations, K , L , and M are sets, and x , y , and z are variables representing constants.

1. $x \in R/S$ - not valid
2. xKy - not valid
3. $R \subset S$ - valid
4. $K \subseteq L$ - valid
5. $x[(R \cap S) \cup T]y$ - valid
6. $x \in K \subseteq (L \cup M)$ - not valid
7. $z \in xR/Sy$ - not valid
8. $z \subseteq y$ - not valid (usually)
9. $KR'(L \cup M)$ - valid (possibly)
10. $xR \wedge Sy$ - not valid
11. $xRy \wedge zSy$ - valid
12. $xRy \cap zSy$ - not valid
13. $xR \cup Sy$ - valid
14. $x(R \subset S)y$ - not valid
15. $x \in K \subseteq x \in L$ - not valid