

Questionnaire.

Disjunctive, Existential Rule Syntax Syntax

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1 Question

$$\exists y R(x,y) \wedge B(y) \rightarrow A(x) \quad (1)$$

$$Q(x,y) \rightarrow R(x,y) \quad (2)$$

$$C(x) \rightarrow B(x) \quad (3)$$

$$D(x) \rightarrow \exists y Q(x,y) \wedge C(y) \quad (4)$$

Does $D(x) \rightarrow A(x)$ follow from the above?

2 Question

$$D(x) \rightarrow \exists R(x,y) \wedge B(y) \quad (1)$$

$$\exists y R(x,y) \wedge A(y) \rightarrow C(x) \quad (2)$$

$$\forall y Q(x,y) \wedge A(y) \rightarrow C(x) \quad (3)$$

$$R(x,y) \rightarrow Q(x,y) \quad (4)$$

$$B(x) \rightarrow A(x) \quad (5)$$

$$R(m,n) \quad (6)$$

$$D(m) \quad (7)$$

$$A(n) \quad (8)$$

Does $C(m)$ follow from the above?

3 Question

$$\exists y R(x,y) \wedge B(y) \rightarrow A(x) \quad (1)$$

$$R(a,b) \quad (2)$$

$$B(b) \quad (3)$$

Does $B(b)$ follow from the above?

4 Question

$$B(x) \rightarrow A(x) \vee C(x) \quad (1)$$

$$\neg A(x) \rightarrow \neg C(x) \quad (2)$$

Does $B(x) \rightarrow A(x)$ follow from the above?

5 Question

$$\forall y R(x,y) \wedge B(y) \rightarrow A(x) \quad (1)$$

$$A(x) \rightarrow D(x) \quad (2)$$

$$R(a,b) \quad (3)$$

Does $D(a)$ follow from the above?

6 Question

$$Q(x,y) \circ Q^-(y,z) \rightarrow Q(x,z) \quad (1)$$

$$Q(x,y) \rightarrow Q^-(x,y) \quad (2)$$

$$A(x) \rightarrow \exists y Q(x,y) \wedge B(y) \quad (3)$$

$$A(d) \quad (4)$$

Does $Q(d,d)$ follow from the above?