

Worksheet Exercise 4.8.A.

Name _____

Deductions with Relations

Class _____ Date _____

Part A. These arguments have the English meanings specified in Ex. 4.7.B. Give deductions for these arguments. Some are more difficult, and some require use of the rule CP.

(1)

1. $(\exists x)(\forall y)(xCy)$ Prem
 $\therefore (\exists x)(xCx)$ Concl

2. _____
 3. _____
 4. _____
 5. _____

(2)

1. $(\forall x)(Mx \supset dBx)$ Prem
 2. Mm Prem
 $\therefore (\exists x)(Mx \& dBx)$ Concl

3. _____

(3)

1. $(\forall x)\sim(xCx)$ Prem
 $\therefore (\forall x)\sim(\forall y)(xCy)$ Concl

(4)

1. $(\forall x)(\sim xPb \supset \sim bSx)$ Prem
 2. $(\forall x)[(\exists y)(xPy) \supset Mx]$ Prem
 3. $\sim Mg$ Prem
 $\therefore \sim bSg$ Concl

(5)

1. $(\forall x)(\exists y)(Iy \& xAy)$ Prem
 2. $(\exists x)\sim Ix$ Prem
 $\therefore (\exists y)[Iy \& (\exists x)(\sim Ix \& xAy)]$ Concl

(6)

1. $Gn \& (\forall x)(Bx \supset nLx)$ Prem
 2. $Bf \& (\forall x)(Gx \supset fHx)$ Prem
 $\therefore (\exists x)\{Gx \& (\exists y)[(By \& yHx) \& xLy]\}$ Concl

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