离散数学 第六次作业

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1. (1) - (3x)(3y)(P(x)) P(y)) (Q(x) ) (Q(y)) (R(x,y))
          = (Ax)(AA) (1 (b(x) V b(h) v b(x) v c(h) v b(m, h))
          = (Yx)(Yy)(7 (P(x)) P(y)) (ux) nely) V7 R(xy))
          = (Yx)(Yy)((P(x))P(y))((x))Q(y)) -7 R(x,y))
 (2) 7 (4x)(3y) ((P(x,y))(((x,y))) (R(x,y))(s(x,y)))
     = (3x)(Yy) 7 ((p(x,y) / Q(x,y)) / (R(x,y) / S(x,y)))
     = (3x)( Yy) (7 (Pix.y) V ((x.y)) V 7 (R(x,y) V S (x,y)))
    = (=x)(∀y) ((P(x,y) VQ(x,y)) → ¬(R(x,y) VS(x,y)))
    = (3x)(Yy)((p(x,y) VQ(x,y)) → (7R(x,y) N7S(x,y)))
 (3> (Yx) (P(x) Vq) → (3x)(P(x) Aq)
           = 7(\forall x)(P(x)\vee q) \vee (\exists x (P(x)\wedge q)
           = (\exists x) \neg (P(x) \lor q) \lor (\exists x) (P(x) \land q)
           = (\exists x)(\neg P(x) \land \neg Q) \lor (\exists x)(P(x) \land Q)
 (6) 不是普遍有效的,在10.17城内
       原式= ((P(1) VQ(1)) ) ((P(1) A P(2)) V (U(1) AQ(2)))
          文 (Q1)=P(2)=T, Q12)=P(1)=F M)
              (Pa) YQu)) (P(2) YQ(2)) = T / T = T
              (PurAPar) V(QUIAQIZ) = FVF=F
          校师式=下,子是公式不是普遍有效的
(7)不是普遍有效的,在10,11城内
      原式=((PU)VP(2))A(QU)VQ(2)))→((PU)AQ(1))V(P(2)AQ(2)))
           & P(1)= Q(2)= T, P(2)=Q(1)= F [m]
                (Pu) VP(2)) A (Qu) VQ(2)) = TAT=T
                (PUM QUI) V (R2) NQ(21) = FVF=F 放成式=F, 于是公式不是着面有效的
(8) 不是普遍有效的,在10.13域内
      原式=(PUI) VPUI) A(PUI) A(PUI) ) -((PUI) A PUI) V(PUI) A PUI))
           食 Pun=Pun=T, Pun=Pun=F M
                 (PU.1) VPU.2)) A (PU.1) VPU.2) = TAT= T
                 (Pun) A P12,11) V (Pun) A P12,21) = FVF=F
            故原式=下,于是公式不是普遍有效的
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