```
2. (1). 原式 = (¬∃xEP(X)AD(X)] ⇒ +x[P(X)⇒¬Q(X)]) ■Λ
                                          (\forall x [P|x) \Rightarrow \neg Q|x)] \Rightarrow \neg \exists x [P|x) \land Q|x)])
                                  ([(x\@\r(\x\q]) xE \ \ ((x\@\r(\x)\q\)
                                 \int_{\mathbb{R}^{N}} \left( \left[ (x) A^{\Gamma} V(x) T^{\Gamma} \right] x d^{\Gamma} V \left[ (x) A (x) T^{\Gamma} \right] \right) =
                                           ( [(x) & \ (x) \ (
                                  [(x\Q\\(\x)\q)\xE\\ \ ((\x\Q\\(\x)\q)\xE\\
                                 = TRUE (原式得证)
      (2). \widehat{R}_{A} = ( \forall x [P(x) \Rightarrow Q(x)] \Rightarrow \exists x [P(x) \land \forall Q(x)] ) \Lambda
                                            (\exists x [PW) \land \neg Q(x)] \Rightarrow \neg \forall x [P(x) \Rightarrow Q(x)])
                                 \int \left( \left[ (x)Q^{-} \wedge (x)q^{-} \right] x \in V \left[ (x)Q^{-} (x)q^{-} \right] x \right] dx
                                            ((x)QV(x)q ] xy V [(x)Q x (xq] xE )
                                ([(x)Dr)(x)q]xEV[(x)DV(x)qr]xt)
                               = (+x[7px)vQ(x)] V7+x[7px)vQ(x)])
                                = TRUE. (原式锝证)
     (3). P(x): x为比负数大的数
                     Q(x):×走正数
                                                         TET (XID XET
                  前一句准
                   压-旬活.
                                                      \forall x \ Q(x) \Rightarrow P(x)
                       JAXQIX) A7PIX) ⇔ YXQIX) ⇒ PIX).
             \equiv \left( \neg \exists x \, Q(x) \wedge \neg P(x) \Rightarrow \forall x \, Q(x) \Rightarrow P(x) . \right) \wedge \left( \forall x \, Q(x) \Rightarrow P(x) \Rightarrow \neg \exists x \, Q(x) \wedge \neg P(x) \right)
              \left( \left[ (x | q \land (x ) Q ) x = V \left[ (x | Q \lor (x ) Q ) \right] \right) \wedge \left( \left[ (x | Q \lor (x ) Q ) \right] x + V \left[ (x | Q \lor (x ) Q ) \right] \right) = 0 
            ([(x|q^T\lambda(x)\Delta^T)xE^T)Y((x|q^T\lambda(x)\Delta^T)xE))
                                                           (原式得证)
            = TRUE
   (4) P(x,y). x,y 两角相等
                Q(xy): xy 是对顶角
          前·旬传,「(t/xt/y P(xy) ⇒Q(xy))]
          后向液
                                          [(U.XIQ T A (U.XI9] VEXE
```

```
TEXXY PLXY) → QLXY) > [(YXY) PLXY) A (YXY)
 = 7[∀xty P(xy) ⇒ Q(xy)] ⇒ [3x3y P(xy) 17Q(x,y)] 1
     [\exists x \exists y \ P(x y) \land \neg Q(x,y)] \Rightarrow \neg [\forall x \forall y \ P(x,y) \Rightarrow Q(x,y)]
 = ([xxy] P(xy) & P(xy)] V [3x3y P(xy) A R(xy)]) A
   ((u,x)Q (u,x)q = ] VEXE V ((u,x)Q * V (u,x)q = ] V +x+y [ ¬p(x,y) V & (x,y)])
₩x+y[¬P(x,y) VQ(x,y)] V ¬ +x+y[P(x,y) VQ(x,y)]
= TRUE.
                (原式得证)
4. 0. \x[N\x) > (GZ(x) \1(x))]
   ②. ∀x[1(x) ⇒ (E(x) V O(x))]
   3. \forall x \left[ \widehat{U} x \right) \Rightarrow 1(S(x))
  铝论(钨证) 函》 ∀x: N(x) ⇒ [O(x) V 数(S(x))]
  化仓取范式.
  O. THIX) V (GZIX) A IX))
     = ("NIX) VGZIX)) A ("NIX)V]IX))
  @ 71x) V Elx) V O(x)
  3 7EK) V 1(SKX)
 (A) (取反), NIX) 人[701X) A (S(X))]
           = NIX) A TOIX) A TOI(SIX))
 原净回
                        (2)(7) 归括得到 I(x).
 TNIX) V GZ/X)
                (1)
                        再与的归征得到. EIX) V O(X).
JNK)VIIX)
                (2)
7](x) VE(x) V D(x) (3)
                        再与的归络得到 EIX)
「EIX) V ] (SIX))
                (4)
                       再与14)归张得别, 1(S(x))
7](S(x)).
                (4)
                       最后与13. 归张得到, 边陲同.
7 O(x)
                (6)
                        空海可与心归猪也处得到 生港市
                L7)
N(x)
因此目标得证.
```