

t3_projpl_1 (TMPjYRc- SAQ6SQQTomnVeDvnrLd6z3NZSPtP)

October 27, 2020

Let $l1_incsp_1 : \iota \Rightarrow o$ be given. Let $v1_projpl_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_incsp_1 : \iota \Rightarrow \iota$ be given. Let $u2_incsp_1 : \iota \Rightarrow \iota$ be given. Let $r2_projpl_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(l1_incsp_1 X0) \Rightarrow ((v1_projpl_1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 \\ X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow \\ (\forall X3.(m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow (\forall X4.(m1_subset_1 \\ X4 (u2_incsp_1 X0)) \Rightarrow (\neg(r1_incsp_1 X0 X1 X3) \wedge ((r1_incsp_1 X0 X2 \\ X3) \wedge ((r1_incsp_1 X0 X1 X4) \wedge ((r1_incsp_1 X0 X2 X4) \wedge ((X1 \neq X2) \wedge (X3 \neq \\ X4)))))))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u2_incsp_1 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow ((r2_projpl_1 X0 X1 X2 X3) \Leftrightarrow ((\\ r1_incsp_1 X0 X1 X2) \wedge (r1_incsp_1 X0 X1 X3)))))) \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} \forall X0.(l1_incsp_1 X0) \Rightarrow ((v1_projpl_1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 \\ X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow \\ (\forall X3.(m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow (\forall X4.(m1_subset_1 \\ X4 (u2_incsp_1 X0)) \Rightarrow (\neg(r2_projpl_1 X0 X1 X3 X4) \wedge ((r2_projpl_1 \\ X0 X2 X3 X4) \wedge ((X1 \neq X2) \wedge (X3 \neq X4)))))))))) \end{aligned}$$