

t19_projpl_1
(TMJ5JT8DXoBJqghGTY5NKFn1CyHVtiA1UPd)

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Let $l1_incsp_1 : \iota \Rightarrow o$ 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 $r4_projpl_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_incsp_1 X0)) \Rightarrow ((r4_projpl_1 X0 X1 X2 X3) \Leftrightarrow (\exists X4. \\ & (m1_subset_1 X4 (u2_incsp_1 X0)) \wedge ((r1_incsp_1 X0 X1 X4) \wedge ((r1_incsp_1 \\ & X0 X2 X4) \wedge (r1_incsp_1 X0 X3 X4)))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u2_incsp_1 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_incsp_1 X0)) \Rightarrow ((r4_incsp_1 X0 (k7_domain_1 \\ & (u1_incsp_1 X0) X2 X3) X1) \Leftrightarrow ((r1_incsp_1 X0 X2 X1) \wedge (r1_incsp_1 X0 \\ & X3 X1)))))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} & \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_incsp_1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\ & (u2_incsp_1 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u2_incsp_1 X0)) \Rightarrow \\ & (\neg(\neg r4_projpl_1 X0 X1 X2 X3) \wedge ((r4_incsp_1 X0 (k7_domain_1 (u1_incsp_1 \\ & X0) X1 X2) X4) \wedge ((r4_incsp_1 X0 (k7_domain_1 (u1_incsp_1 X0) X1 X3) \\ & X5) \wedge (X4 = X5)))))))))) \end{aligned}$$