

t6_incproj
(TMaUcpiQTPTH8ctHZQGTTi6iS6EZGGTSrgxT)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_collsp : \iota \Rightarrow o$ be given. Let $v3_collsp : \iota \Rightarrow o$ be given. Let $v4_collsp : \iota \Rightarrow o$ be given. Let $l1_collsp : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_collsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\ & (l1_collsp X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow ((\neg (X1 \neq X2) \wedge ((X1 \neq X3) \wedge (X2 \neq X3))) \Rightarrow (r1_collsp \\ & X0 X1 X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_collsp X0)) \Rightarrow ((v4_collsp X0) \Leftrightarrow \\ & (\neg \forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(\\ & m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (r1_collsp X0 X1 X2 X3)))))) \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\ & ((v4_collsp X0) \wedge (l1_collsp X0)))))) \Rightarrow (\exists X1.(m1_subset_1 \\ & X1 (u1_struct_0 X0)) \wedge (\exists X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \wedge (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge ((X1 \neq X2) \wedge \\ & ((X2 \neq X3) \wedge (X3 \neq X1)))))) \end{aligned}$$