

t24_anproj_2
(TMJ6A3gR8xUjeJbyhECgt3JpB4qfj3S5gmz)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_anproj_1 : \iota \Rightarrow \iota$ be given. Let $r1_collsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_anproj_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_anproj_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v9_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow ((r2_anproj_1 X0 X1 X2 X3) \Rightarrow ((r2_anproj_1 \\ & X0 X1 X3 X2) \wedge ((r2_anproj_1 X0 X2 X1 X3) \wedge ((r2_anproj_1 X0 X3 X2 X1) \wedge \\ & ((r2_anproj_1 X0 X3 X1 X2) \wedge (r2_anproj_1 X0 X2 X3 X1)))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\ & X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 \\ & (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow ((r1_collsp (k5_anproj_1 X0) \\ & X1 X2 X3) \Leftrightarrow (\exists X4.(m1_subset_1 X4 (u1_struct_0 X0)) \wedge (\exists X5. \\ & (m1_subset_1 X5 (u1_struct_0 X0)) \wedge (\exists X6.(m1_subset_1 X6 \\ & (u1_struct_0 X0)) \wedge ((X1 = k2_anproj_1 X0 X4) \wedge ((X2 = k2_anproj_1 \\ & X0 X5) \wedge ((X3 = k2_anproj_1 X0 X6) \wedge ((\neg v9_struct_0 X4 X0) \wedge ((\neg v9_struct_0 \\ & X5 X0) \wedge ((\neg v9_struct_0 X6 X0) \wedge (r2_anproj_1 X0 X4 X5 X6)))))))))))))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (\neg v7_struct_0 X0) \wedge (v13_algstr_0 \\ & X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge \\ & ((v5_rlvect_1 X0) \wedge (v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 \\ & X0) \wedge (l1_rlvect_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 \\ & (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow ((r1_collsp (k5_anproj_1 X0) \\ X1 X2 X3) \Rightarrow ((r1_collsp (k5_anproj_1 X0) X1 X3 X2) \wedge ((r1_collsp (k5_anproj_1 \\ X0) X2 X1 X3) \wedge (r1_collsp (k5_anproj_1 X0) X3 X2 X1) \wedge (r1_collsp \\ (k5_anproj_1 X0) X3 X1 X2) \wedge (r1_collsp (k5_anproj_1 X0) X2 X3 X1)))))))))) \end{aligned}$$