

180_anproj_2 (TMXSWd- JyX4F9eCSyVQLgsge91yHcJHUUPLe)

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Let $v2_struct_0 : \iota \Rightarrow o$ 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 $v1_anproj_2 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_anproj_2 : \iota \Rightarrow o$ be given. Let $k5_anproj_1 : \iota \Rightarrow \iota$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ 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. Let $v1_collsp : \iota \Rightarrow o$ be given. Let $v3_anproj_2 : \iota \Rightarrow o$ be given. Let $v4_collsp : \iota \Rightarrow o$ be given. Let $v2_anproj_2 : \iota \Rightarrow o$ be given. Let $v2_collsp : \iota \Rightarrow o$ be given. Let $v3_collsp : \iota \Rightarrow o$ be given. Let $l1_collsp : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge \\
& ((v5_rlvect_1 X0) \wedge (v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 \\
& X0) \wedge (l1_rlvect_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 \\
& (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow (\forall X5.(m1_subset_1 X5 \\
& (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow (\forall X6.(m1_subset_1 X6 \\
& (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow (\forall X7.(m1_subset_1 X7 \\
& (u1_struct_0 (k5_anproj_1 X0))) \Rightarrow (\neg(r1_collsp (k5_anproj_1 X0) \\
& X1 X2 X3) \wedge ((r1_collsp (k5_anproj_1 X0) X4 X5 X3) \wedge ((r1_collsp (k5_anproj_1 \\
& X0) X1 X4 X6) \wedge ((r1_collsp (k5_anproj_1 X0) X2 X5 X6) \wedge ((r1_collsp \\
& (k5_anproj_1 X0) X1 X5 X7) \wedge ((r1_collsp (k5_anproj_1 X0) X2 X4 X7) \wedge \\
& ((r1_collsp (k5_anproj_1 X0) X6 X3 X7) \wedge ((\neg r1_collsp (k5_anproj_1 \\
& X0) X1 X2 X5) \wedge ((\neg r1_collsp (k5_anproj_1 X0) X1 X2 X4) \wedge ((\neg r1_collsp \\
& (k5_anproj_1 X0) X1 X4 X5) \wedge (\neg r1_collsp (k5_anproj_1 X0) X2 X4 X5)))))))))))))
\end{aligned}$$

(1)

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ &X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ &((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v1_anproj_2 \\ &X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow ((v1_collsp (k5_anproj_1 X0)) \wedge \\ &(v3_anproj_2 (k5_anproj_1 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ &X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ &((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v1_anproj_2 \\ &X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow ((v1_collsp (k5_anproj_1 X0)) \wedge \\ &(v4_collsp (k5_anproj_1 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ &((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\ &X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow ((v1_collsp (k5_anproj_1 X0)) \wedge \\ &(v2_anproj_2 (k5_anproj_1 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ &((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\ &X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow ((\neg v2_struct_0 (k5_anproj_1 \\ &X0)) \wedge (v1_collsp (k5_anproj_1 X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ &((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\ &X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow ((v1_collsp (k5_anproj_1 X0)) \wedge \\ &((v2_collsp (k5_anproj_1 X0)) \wedge (v3_collsp (k5_anproj_1 X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ &((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\ &X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow ((v1_collsp (k5_anproj_1 X0)) \wedge \\ &(l1_collsp (k5_anproj_1 X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge (l1_collsp \\
& X0)))))) \Rightarrow ((v4_anproj_2 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 \\
& X7 (u1_struct_0 X0)) \Rightarrow (\neg(r1_collsp X0 X1 X2 X3) \wedge ((r1_collsp X0 X4 \\
& X5 X3) \wedge ((r1_collsp X0 X1 X4 X6) \wedge ((r1_collsp X0 X2 X5 X6) \wedge ((r1_collsp \\
& X0 X1 X5 X7) \wedge ((r1_collsp X0 X2 X4 X7) \wedge ((r1_collsp X0 X6 X3 X7) \wedge ((\neg \\
& r1_collsp X0 X1 X2 X5) \wedge ((\neg r1_collsp X0 X1 X2 X4) \wedge ((\neg r1_collsp X0 \\
& X1 X4 X5) \wedge (\neg r1_collsp X0 X2 X4 X5))))))))))))))))) \Rightarrow (8)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_rlvect_1 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\
& X0) \wedge (v1_anproj_2 X0)))))))))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 \\
& X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\
& ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 \\
& X0) \wedge (v8_rlvect_1 X0)))))))))) \Rightarrow (9)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v1_anproj_2 \\
& X0) \wedge (l1_rlvect_1 X0)))))))))) \Rightarrow (v4_anproj_2 (k5_anproj_1 X0))
\end{aligned}$$