

t9_projdes1 (TMQzUPwMXQyPXdAHg- pDsYjHAMHXsrh88t9K)

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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 $v2_anproj_2 : \iota \Rightarrow o$ be given. Let $v3_anproj_2 : \iota \Rightarrow o$ be given. Let $v7_anproj_2 : \iota \Rightarrow o$ 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 $r1_projdes1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_collsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge ((\neg v7_anproj_2 \\
& X0) \wedge (l1_collsp X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X5. (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X6. (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7. (m1_subset_1 \\
& X7 (u1_struct_0 X0)) \Rightarrow (((r1_projdes1 X0 X1 X2 X3 X4) \wedge ((r1_projdes1 \\
& X0 X1 X2 X3 X5) \wedge ((r1_projdes1 X0 X1 X2 X3 X6) \wedge (r1_projdes1 X0 X1 X2 \\
& X3 X7)))) \Rightarrow ((r1_collsp X0 X1 X2 X3) \vee (r1_projdes1 X0 X4 X5 X6 X7))))))))) \\
& \hspace{15em} (1)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge ((\neg v7_anproj_2 \\
& X0) \wedge (l1_collsp X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow ((r1_projdes1 X0 X1 X2 X3 X4) \Rightarrow ((r1_projdes1 \\
& X0 X2 X3 X4 X1) \wedge ((r1_projdes1 X0 X3 X4 X1 X2) \wedge ((r1_projdes1 X0 X4 X1 \\
& X2 X3) \wedge ((r1_projdes1 X0 X2 X1 X3 X4) \wedge ((r1_projdes1 X0 X3 X2 X4 X1) \wedge \\
& ((r1_projdes1 X0 X4 X3 X1 X2) \wedge ((r1_projdes1 X0 X1 X4 X2 X3) \wedge ((r1_projdes1 \\
& X0 X1 X3 X4 X2) \wedge ((r1_projdes1 X0 X2 X4 X1 X3) \wedge ((r1_projdes1 X0 X3 X1 \\
& X2 X4) \wedge ((r1_projdes1 X0 X4 X2 X3 X1) \wedge ((r1_projdes1 X0 X3 X1 X4 X2) \wedge \\
& ((r1_projdes1 X0 X4 X2 X1 X3) \wedge ((r1_projdes1 X0 X1 X3 X2 X4) \wedge ((r1_projdes1 \\
& X0 X2 X4 X3 X1) \wedge ((r1_projdes1 X0 X1 X2 X4 X3) \wedge ((r1_projdes1 X0 X1 X4 \\
& X3 X2) \wedge ((r1_projdes1 X0 X2 X3 X1 X4) \wedge ((r1_projdes1 X0 X2 X1 X4 X3) \wedge \\
& ((r1_projdes1 X0 X3 X2 X1 X4) \wedge ((r1_projdes1 X0 X3 X4 X2 X1) \wedge ((r1_projdes1 \\
& X0 X4 X1 X3 X2) \wedge (r1_projdes1 X0 X4 X3 X2 X1))))))))))))))))) \\
& \hspace{15em} (2)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge ((\neg v7_anproj_2 \\
& X0) \wedge (l1_collsp X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow ((\neg(\neg r1_collsp X0 X1 X2 X3) \wedge ((\neg r1_collsp X0 \\
& X2 X3 X4) \wedge ((\neg r1_collsp X0 X3 X4 X1) \wedge (\neg r1_collsp X0 X4 X1 X2)))) \Rightarrow (\\
& r1_projdes1 X0 X1 X2 X3 X4)))))) \\
& \hspace{15em} (3)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge ((\neg v7_anproj_2 \\
& X0) \wedge (l1_collsp X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_collsp X0 X1 X2 X3) \Rightarrow ((r1_collsp \\
& X0 X2 X3 X1) \wedge ((r1_collsp X0 X3 X1 X2) \wedge ((r1_collsp X0 X2 X1 X3) \wedge ((r1_collsp \\
& X0 X1 X3 X2) \wedge (r1_collsp X0 X3 X2 X1)))))) \\
& \hspace{15em} (4)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge ((\neg v7_anproj_2 \\
& X0) \wedge (l1_collsp X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (((r1_projdes1 \\
& X0 X1 X2 X3 X4) \wedge ((r1_projdes1 X0 X1 X2 X3 X5) \wedge (r1_projdes1 X0 X1 X2 \\
& X3 X6))) \Rightarrow ((r1_collsp X0 X1 X2 X3) \vee (r1_projdes1 X0 X1 X4 X5 X6))))))))) \\
& \hspace{15em} (5)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge ((\neg v7_anproj_2 \\
& X0) \wedge (l1_collsp X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 \\
& X7 (u1_struct_0 X0)) \Rightarrow (((r1_projdes1 X0 X4 X5 X6 X1) \wedge ((r1_projdes1 \\
& X0 X4 X5 X6 X3) \wedge ((r1_projdes1 X0 X4 X5 X6 X2) \wedge (r1_projdes1 X0 X1 X2 \\
& X3 X7))) \Rightarrow ((r1_collsp X0 X1 X2 X3) \vee (r1_projdes1 X0 X4 X5 X6 X7))))))))) \\
& \hspace{15em} (5)
\end{aligned}$$