

t10_projdes1 (TMdmoWpC- QCDYSvc8BUr2TR66BC5dy2RS73T)

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

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
 & (l1_collsp X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
 & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
 & X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
 & X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (((r1_collsp \\
 & X0 X3 X4 X1) \wedge ((r1_collsp X0 X3 X4 X2) \wedge (r1_collsp X0 X1 X2 X5)))) \Rightarrow ((\\
 & X1 = X2) \vee (r1_collsp X0 X3 X4 X5)))))))))
 \end{aligned} \tag{1}$$

Assume the following.

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

Assume the following.

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

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge ((\neg v7_anproj_2 \\
& X0) \wedge (l1_collsp X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& (((r1_projdes1 X0 X1 X2 X3 X4) \wedge (r1_projdes1 X0 X1 X2 X3 X5)) \Rightarrow ((r1_collsp \\
& X0 X1 X2 X3) \vee (r1_projdes1 X0 X1 X2 X4 X5))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_collsp X0)) \Rightarrow ((v2_collsp X0) \Leftrightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\
& X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& X0)) \Rightarrow ((r1_collsp X0 X1 X2 X1) \wedge ((r1_collsp X0 X1 X1 X2) \wedge (r1_collsp \\
& X0 X1 X2 X2))))))
\end{aligned} \tag{7}$$

Theorem 1

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