

t15_projdes1 (TMdyQB- Whb5XFjikkvYsFMLqpDM7VwuuAVy9c)

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

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

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.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge ((\neg v7_anproj_2 \\
& X0) \wedge (l1_collsp X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& (((r1_collsp X0 X1 X2 X3) \wedge (r1_projdes1 X0 X4 X5 X1 X2)) \Rightarrow ((X1 = X2) \vee \\
& (r1_projdes1 X0 X4 X5 X1 X3))))))))) \\
& \tag{3}
\end{aligned}$$

Theorem 1

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