

t17_hessenbe

(TMSS4sMVF8murUN1LYnUhCcsXpQBQDfdy7q)

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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 $v6_anproj_2 : \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge (l1_collsp \\
& X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& (\neg(\neg r1_collsp X0 X1 X2 X3) \wedge ((r1_collsp X0 X1 X2 X4) \wedge ((X1 \neq X4) \wedge (r1_collsp \\
& X0 X1 X4 X3)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge (l1_collsp \\
& X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow ((r1_collsp X0 X1 X2 X3) \Rightarrow ((r1_collsp X0 X2 X3 \\
& X1) \wedge ((r1_collsp X0 X3 X1 X2) \wedge ((r1_collsp X0 X2 X1 X3) \wedge ((r1_collsp \\
& X0 X1 X3 X2) \wedge (r1_collsp X0 X3 X2 X1)))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge ((v6_anproj_2 \\
& X0) \wedge ((v7_anproj_2 X0) \wedge (l1_collsp X0))))))))) \Rightarrow (\forall X1.(\\
& m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 \\
& X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 X6 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 (u1_struct_0 X0)) \Rightarrow (\forall X8. \\
& (m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow (\forall X9.(m1_subset_1 X9 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X10.(m1_subset_1 X10 (u1_struct_0 \\
& X0)) \Rightarrow (((r1_collsp X0 X3 X5 X9) \wedge ((r1_collsp X0 X2 X4 X9) \wedge ((r1_collsp \\
& X0 X5 X7 X8) \wedge ((r1_collsp X0 X4 X6 X8) \wedge ((r1_collsp X0 X3 X7 X10) \wedge ((\\
& r1_collsp X0 X2 X6 X10) \wedge ((r1_collsp X0 X1 X3 X2) \wedge ((r1_collsp X0 X1 \\
& X5 X4) \wedge (r1_collsp X0 X1 X7 X6))))))))) \Rightarrow ((X1 = X2) \vee ((X3 = X2) \vee ((X1 = \\
& X4) \vee ((X5 = X4) \vee ((X1 = X6) \vee ((X7 = X6) \vee ((r1_collsp X0 X1 X3 X5) \vee ((r1_collsp \\
& X0 X1 X3 X7) \vee ((r1_collsp X0 X1 X5 X7) \vee ((r1_collsp X0 X1 X8 X9) \vee (r1_collsp \\
& X0 X8 X10 X9))))))))))))) \\
& \tag{3}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_collsp X0) \wedge ((v3_collsp X0) \wedge \\
& ((v4_collsp X0) \wedge ((v2_anproj_2 X0) \wedge ((v3_anproj_2 X0) \wedge ((v6_anproj_2 \\
& X0) \wedge ((v7_anproj_2 X0) \wedge (l1_collsp X0))))))))) \Rightarrow (\forall X1.(\\
& m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 \\
& X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 X6 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 (u1_struct_0 X0)) \Rightarrow (\forall X8. \\
& (m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow (\forall X9.(m1_subset_1 X9 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X10.(m1_subset_1 X10 (u1_struct_0 \\
& X0)) \Rightarrow (((r1_collsp X0 X3 X5 X8) \wedge ((r1_collsp X0 X2 X4 X8) \wedge ((r1_collsp \\
& X0 X5 X7 X9) \wedge ((r1_collsp X0 X4 X6 X9) \wedge ((r1_collsp X0 X3 X7 X10) \wedge ((\\
& r1_collsp X0 X2 X6 X10) \wedge ((r1_collsp X0 X1 X3 X2) \wedge ((r1_collsp X0 X1 \\
& X5 X4) \wedge (r1_collsp X0 X1 X7 X6))))))))) \Rightarrow ((X1 = X2) \vee ((X3 = X2) \vee ((X1 = \\
& X4) \vee ((X5 = X4) \vee ((X1 = X6) \vee ((X7 = X6) \vee ((r1_collsp X0 X1 X3 X5) \vee ((r1_collsp \\
& X0 X1 X3 X7) \vee ((r1_collsp X0 X1 X5 X7) \vee (r1_collsp X0 X9 X10 X8))))))))))))) \\
& \tag{3}
\end{aligned}$$