

t39_parsp_2
(TMb4irrySRcLsLee8CNYbxEa7G9486VRFQY)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_parsp_1 : \iota \Rightarrow o$ be given. Let $v1_parsp_2 : \iota \Rightarrow o$ be given. Let $l1_parsp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r2_parsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_parsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_parsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_parsp_1 X0) \wedge ((v1_parsp_2 \\ & X0) \wedge (l1_parsp_1 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\ & (u1_struct_0 X0)) \Rightarrow ((r2_parsp_2 X0 X1 X2 X3 X4) \Leftrightarrow ((\neg r1_parsp_2 X0 \\ & X1 X2 X3) \wedge ((r1_parsp_1 X0 X1 X2 X3 X4) \wedge (r1_parsp_1 X0 X1 X3 X2 X4))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_parsp_1 X0) \wedge ((v1_parsp_2 \\ & X0) \wedge (l1_parsp_1 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_parsp_2 X0 X1 X2 X3) \Leftrightarrow (r1_parsp_1 \\ & X0 X1 X2 X1 X3)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_parsp_1 X0) \wedge (l1_parsp_1 \\
& X0))) \Rightarrow ((v1_parsp_2 X0) \Leftrightarrow ((\neg \forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (r1_parsp_1 X0 X1 X2 X1 X3)))))) \wedge \\
& ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(\\
& m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& (((r1_parsp_1 X0 X2 X3 X1 X4) \wedge ((r1_parsp_1 X0 X1 X2 X3 X4) \wedge (r1_parsp_1 \\
& X0 X1 X3 X2 X4))) \Rightarrow (r1_parsp_1 X0 X1 X2 X1 X3)))))) \wedge (\forall X1.(m1_subset_1 \\
& X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow \\
& (((r1_parsp_1 X0 X1 X4 X2 X5) \wedge ((r1_parsp_1 X0 X1 X4 X3 X6) \wedge ((r1_parsp_1 \\
& X0 X1 X2 X4 X5) \wedge (r1_parsp_1 X0 X1 X3 X4 X6)))))) \Rightarrow ((r1_parsp_1 X0 X1 X4 \\
& X1 X2) \vee ((r1_parsp_1 X0 X1 X4 X1 X3) \vee (r1_parsp_1 X0 X2 X3 X5 X6))))))))))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_parsp_1 X0) \wedge ((v1_parsp_2 \\
& X0) \wedge (l1_parsp_1 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (((r2_parsp_2 \\
& X0 X1 X2 X3 X4) \wedge (r2_parsp_2 X0 X1 X2 X5 X6)) \Rightarrow (r1_parsp_1 X0 X3 X5 X4 \\
& X6))))))))))
\end{aligned}$$