

t40_parsp_2
(TMPHJXw4skQkzzhgPWosjw1bvtRDyXytGrd)

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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 $r2_parsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_parsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_parsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_parsp_1 X0) \wedge ((v1_parsp_2 \\ & X0) \wedge (l1_parsp_1 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (((r2_parsp_2 \\ & X0 X1 X2 X3 X4) \wedge (r2_parsp_2 X0 X1 X2 X5 X6)) \Rightarrow (r1_parsp_1 X0 X3 X5 X4 \\ & X6)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_parsp_1 X0) \wedge ((v1_parsp_2 \\ & X0) \wedge (l1_parsp_1 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\ & (u1_struct_0 X0)) \Rightarrow ((r2_parsp_2 X0 X1 X2 X3 X4) \Rightarrow ((X1 \neq X2) \wedge ((X2 \neq \\ & X3) \wedge ((X3 \neq X1) \wedge ((X1 \neq X4) \wedge ((X2 \neq X4) \wedge (X3 \neq X4)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_parsp_1 X0) \wedge ((v1_parsp_2 \\ & X0) \wedge (l1_parsp_1 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\ & (u1_struct_0 X0)) \Rightarrow ((r2_parsp_2 X0 X1 X2 X3 X4) \Leftrightarrow ((\neg r1_parsp_2 X0 \\ & X1 X2 X3) \wedge ((r1_parsp_1 X0 X1 X2 X3 X4) \wedge (r1_parsp_1 X0 X1 X3 X2 X4)))))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_parsp_1 X0)) \Rightarrow ((v2_parsp_1 \\
& X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 \\
& X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X8.(m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow ((r1_parsp_1 \\
& X0 X1 X2 X2 X1) \wedge ((r1_parsp_1 X0 X1 X2 X3 X3) \wedge ((\neg(r1_parsp_1 X0 X1 X2 \\
& X5 X6) \wedge ((r1_parsp_1 X0 X1 X2 X7 X8) \wedge ((\neg r1_parsp_1 X0 X5 X6 X7 X8) \wedge \\
& (X1 \neq X2)))) \wedge ((r1_parsp_1 X0 X1 X2 X1 X3) \Rightarrow (r1_parsp_1 X0 X2 X1 X2 \\
& X3)) \wedge (\exists X9.(m1_subset_1 X9 (u1_struct_0 X0)) \wedge ((r1_parsp_1 \\
& X0 X1 X2 X3 X9) \wedge (r1_parsp_1 X0 X1 X3 X2 X9))))))))))))) \\
& \hspace{15em} (4)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_parsp_1 X0) \wedge ((v1_parsp_2 \\
& X0) \wedge (l1_parsp_1 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (((r2_parsp_2 \\
& X0 X4 X5 X1 X2) \wedge (r2_parsp_2 X0 X4 X5 X3 X6)) \Rightarrow ((r1_parsp_2 X0 X1 X2 X3) \vee \\
& (r2_parsp_2 X0 X1 X2 X3 X6)))))))))))))
\end{aligned}$$