

t20_parsp_2
(TMTU2TntGnVz1Vx3JBsB5FJkR8wF7t1uuNK)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_parasp_1 : \iota \Rightarrow o$ be given. Let $v1_parasp_2 : \iota \Rightarrow o$ be given. Let $l1_parasp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_parasp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_parasp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_parasp_1 X0) \wedge (l1_parasp_1 \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& ((r1_parasp_1 X0 X1 X2 X3 X4) \Rightarrow ((r1_parasp_1 X0 X2 X1 X3 X4) \wedge ((r1_parasp_1 \\
& X0 X1 X2 X4 X3) \wedge ((r1_parasp_1 X0 X2 X1 X4 X3) \wedge ((r1_parasp_1 X0 X3 X4 X1 \\
& X2) \wedge ((r1_parasp_1 X0 X4 X3 X1 X2) \wedge ((r1_parasp_1 X0 X3 X4 X2 X1) \wedge (r1_parasp_1 \\
& X0 X4 X3 X2 X1))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_parasp_1 X0) \wedge ((v1_parasp_2 \\
& X0) \wedge (l1_parasp_1 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow (((r1_parasp_2 X0 X1 X2 X3) \wedge (r1_parasp_2 X0 X1 \\
& X2 X4)) \Rightarrow (r1_parasp_1 X0 X1 X2 X3 X4))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_parsp_1 X0)) \Rightarrow ((v2_parsp_1 \\
& \quad X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 \\
& \quad X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X8.(m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow ((r1_parsp_1 \\
& \quad X0 X1 X2 X2 X1) \wedge ((r1_parsp_1 X0 X1 X2 X3 X3) \wedge ((\neg(r1_parsp_1 X0 X1 X2 \\
& \quad X5 X6) \wedge ((r1_parsp_1 X0 X1 X2 X7 X8) \wedge ((\neg r1_parsp_1 X0 X5 X6 X7 X8) \wedge \\
& \quad (X1 \neq X2)))) \wedge ((r1_parsp_1 X0 X1 X2 X1 X3) \Rightarrow (r1_parsp_1 X0 X2 X1 X2 \\
& \quad X3)) \wedge (\exists X9.(m1_subset_1 X9 (u1_struct_0 X0)) \wedge ((r1_parsp_1 \\
& \quad X0 X1 X2 X3 X9) \wedge (r1_parsp_1 X0 X1 X3 X2 X9))))))))))))) \\
& \hspace{15em} (3)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_parsp_1 X0) \wedge ((v1_parsp_2 \\
& \quad X0) \wedge (l1_parsp_1 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& \quad (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (((r1_parsp_2 \\
& \quad X0 X1 X2 X5) \wedge ((r1_parsp_2 X0 X1 X2 X6) \wedge ((r1_parsp_2 X0 X3 X4 X5) \wedge (\\
& \quad r1_parsp_2 X0 X3 X4 X6)))) \Rightarrow ((r1_parsp_1 X0 X1 X2 X3 X4) \vee (X5 = X6)))))))))
\end{aligned}$$