

t55_semi_af1

(TMK8dE6UCi6TdGNqJsWH6sAjnEjqTt1UB8Q)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_semi_af1 : \iota \Rightarrow o$ be given. Let $l1_analoaf : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r3_semi_af1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_semi_af1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_semi_af1 X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\ & ((r2_semi_af1 X0 X1 X2 X3 X4) \Rightarrow ((X1 \neq X2) \wedge ((X1 \neq X3) \wedge ((X3 \neq X2) \wedge ((X1 \neq \\ & X4) \wedge ((X2 \neq X4) \wedge (X3 \neq X4)))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_semi_af1 X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\ & ((r3_semi_af1 X0 X1 X2 X3 X4) \Leftrightarrow (\neg(\neg(X1 = X2) \wedge (X3 = X4)) \wedge (\forall X5. \\ & (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 X6 \\ & (u1_struct_0 X0)) \Rightarrow (\neg(r2_semi_af1 X0 X5 X6 X1 X2) \wedge (r2_semi_af1 \\ & X0 X5 X6 X3 X4)))))))))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_semi_af1 X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow ((r3_semi_af1 X0 X1 X2 X3 X3) \Rightarrow (X1 = X2)))))) \end{aligned}$$