

t32_semi_af1 (TMFK-
mYeyZ7gEnhCic7n3E8TcHTPeN262rvM)

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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 $r1_semi_af1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_semi_af1 X0) \wedge (l1_analoaf \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow ((r2_analoaf X0 X1 X2 X1 X3) \Rightarrow ((r2_analoaf X0 \\
& \quad X1 X3 X1 X2) \wedge ((r2_analoaf X0 X2 X1 X1 X3) \wedge ((r2_analoaf X0 X1 X2 X3 X1) \wedge \\
& \quad ((r2_analoaf X0 X1 X3 X2 X1) \wedge ((r2_analoaf X0 X2 X1 X3 X1) \wedge ((r2_analoaf \\
& \quad X0 X3 X1 X1 X2) \wedge ((r2_analoaf X0 X3 X1 X2 X1) \wedge ((r2_analoaf X0 X2 X1 X2 \\
& \quad X3) \wedge ((r2_analoaf X0 X1 X2 X2 X3) \wedge ((r2_analoaf X0 X2 X1 X3 X2) \wedge ((r2_analoaf \\
& \quad X0 X2 X3 X2 X1) \wedge ((r2_analoaf X0 X1 X2 X3 X2) \wedge ((r2_analoaf X0 X3 X2 X2 \\
& \quad X1) \wedge ((r2_analoaf X0 X2 X3 X1 X2) \wedge ((r2_analoaf X0 X3 X2 X1 X2) \wedge ((r2_analoaf \\
& \quad X0 X3 X1 X3 X2) \wedge ((r2_analoaf X0 X1 X3 X3 X2) \wedge ((r2_analoaf X0 X3 X1 X2 \\
& \quad X3) \wedge ((r2_analoaf X0 X1 X3 X2 X3) \wedge ((r2_analoaf X0 X3 X2 X3 X1) \wedge ((r2_analoaf \\
& \quad X0 X2 X3 X3 X1) \wedge ((r2_analoaf X0 X3 X2 X1 X3) \wedge (r2_analoaf X0 X2 X3 X1 \\
& \quad X3))))))))))))))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_semi_af1 X0) \wedge (l1_analoaf \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow ((r1_semi_af1 X0 X1 X2 X3) \Leftrightarrow (r2_analoaf X0 X1 \\
& \quad X2 X1 X3))))))
\end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_semi_af1 X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\ & (((r1_semi_af1 X0 X1 X2 X3) \wedge (r2_analoaf X0 X1 X2 X3 X4)) \Rightarrow ((X1 = X2) \vee \\ & (r2_analoaf X0 X1 X3 X2 X4)))))) \end{aligned}$$