

l12_homothet

(TMHZJrKxhEM4CEkzq8NN5Q4h432CSGf65e9)

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Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v1_diraf : \iota \Rightarrow o$ be given. Let $v2_diraf : \iota \Rightarrow o$ 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 $r1_aff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow ((r1_aff_1 X0 X1 X2 X3) \Rightarrow ((r1_aff_1 X0 X1 X3 X2) \wedge ((r1_aff_1 \\ & X0 X2 X1 X3) \wedge ((r1_aff_1 X0 X2 X3 X1) \wedge ((r1_aff_1 X0 X3 X1 X2) \wedge (r1_aff_1 \\ & X0 X3 X2 X1)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5. \\ & (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (((r1_aff_1 X0 X1 X2 X4) \wedge ((r1_aff_1 \\ & X0 X1 X3 X5) \wedge (X4 = X5)) \Rightarrow ((r1_aff_1 X0 X1 X2 X3) \vee ((X4 = X1) \wedge (X5 = X1)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow ((r2_analoaf \\ & X0 X1 X2 X3 X4) \Rightarrow ((r2_analoaf X0 X1 X2 X4 X3) \wedge ((r2_analoaf X0 X2 X1 X3 \\ & X4) \wedge ((r2_analoaf X0 X2 X1 X4 X3) \wedge ((r2_analoaf X0 X3 X4 X1 X2) \wedge ((r2_analoaf \\ & X0 X3 X4 X2 X1) \wedge ((r2_analoaf X0 X4 X3 X1 X2) \wedge (r2_analoaf X0 X4 X3 X2 \\ & X1)))))))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\
& \quad X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (((r1_aff_1 \\
& X0 X1 X3 X4) \wedge (r2_analoaf X0 X2 X3 X2 X4)) \Rightarrow ((r1_aff_1 X0 X1 X2 X3) \vee (\\
& \quad X3 = X4))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\
& \quad X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& \quad X0)) \Rightarrow ((r1_aff_1 X0 X1 X2 X3) \Leftrightarrow (r2_analoaf X0 X1 X2 X1 X3))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge ((v2_diraf X0) \wedge \\
& \quad (l1_analoaf X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& \quad (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& ((X2 = X3) \Rightarrow ((X1 = X2) \vee (((\neg(\neg r1_aff_1 X0 X1 X2 X4) \wedge ((r1_aff_1 X0 X1 \\
& X4 X5) \wedge (r2_analoaf X0 X2 X4 X3 X5))) \wedge (\neg(r1_aff_1 X0 X1 X2 X4) \wedge (\exists X6. \\
& \quad (m1_subset_1 X6 (u1_struct_0 X0)) \wedge (\exists X7.(m1_subset_1 X7 \\
& \quad (u1_struct_0 X0)) \wedge (\neg r1_aff_1 X0 X1 X2 X6) \wedge ((r1_aff_1 X0 X1 X6 X7) \wedge \\
& ((r2_analoaf X0 X2 X6 X3 X7) \wedge ((r2_analoaf X0 X6 X4 X7 X5) \wedge (r1_aff_1 \\
& \quad X0 X1 X2 X5)))))) \vee (X4 = X5))))))
\end{aligned}$$