

t16_dirort
(TMHf3fQBtjLYPGxg11yUBQ8BLZNM564tZ8)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_dirort : \iota \Rightarrow o$ be given. Let $l1_analoaf : \iota \Rightarrow o$ be given. Let $v4_dirort : \iota \Rightarrow o$ be given. Let $v2_dirort : \iota \Rightarrow o$ be given. Let $v3_dirort : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r2_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v1_dirort X0) \wedge (l1_analoaf X0))) \Rightarrow ((v4_dirort X0) \Rightarrow (v3_dirort X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_dirort X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & ((v4_dirort X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. \\ & (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X8.(m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow \\ & (\neg(r2_analoaf X0 X1 X2 X4 X5) \wedge ((r2_analoaf X0 X4 X5 X7 X8) \wedge ((r2_analoaf \\ & X0 X1 X2 X3 X6) \wedge ((X1 \neq X2) \wedge ((X4 \neq X5) \wedge (\neg r2_analoaf X0 X3 X6 X7 X8)))))))))))))) \Rightarrow \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_dirort X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & ((v3_dirort X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. \\ & (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X8.(m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow \\ & (\neg(r2_analoaf X0 X1 X2 X4 X5) \wedge ((r2_analoaf X0 X4 X5 X7 X8) \wedge ((r2_analoaf \\ & X0 X3 X6 X7 X8) \wedge ((X7 \neq X8) \wedge ((X4 \neq X5) \wedge (\neg r2_analoaf X0 X1 X2 X3 X6)))))))))))))) \Rightarrow \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_dirort X0) \wedge (l1_analoaf X0))) \Rightarrow \\
& ((v2_dirort X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. \\
& (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X8.(m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow \\
& (\neg(r2_analoaf X0 X1 X2 X4 X5) \wedge (r2_analoaf X0 X7 X8 X4 X5) \wedge (r2_analoaf \\
& X0 X7 X8 X3 X6) \wedge ((X7 \neq X8) \wedge ((X4 \neq X5) \wedge (\neg r2_analoaf X0 X1 X2 X3 X6))))))))))))) \Rightarrow \\
& (4)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_analoaf X0)) \Rightarrow ((v1_dirort \\
& X0) \Leftrightarrow ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow ((r2_analoaf X0 \\
& X1 X1 X3 X5) \wedge (r2_analoaf X0 X1 X3 X5 X5) \wedge ((\neg(r2_analoaf X0 X1 X3 X2 \\
& X4) \wedge (r2_analoaf X0 X1 X3 X4 X2) \wedge ((X1 \neq X3) \wedge (X2 \neq X4)))) \wedge ((\neg(r2_analoaf \\
& X0 X1 X3 X2 X4) \wedge (r2_analoaf X0 X1 X3 X2 X5) \wedge ((\neg r2_analoaf X0 X1 X3 \\
& X4 X5) \wedge (\neg r2_analoaf X0 X1 X3 X5 X4)))) \wedge (((r2_analoaf X0 X1 X3 X2 X4) \Rightarrow \\
& (r2_analoaf X0 X3 X1 X4 X2)) \wedge (((r2_analoaf X0 X1 X3 X2 X4) \wedge (r2_analoaf \\
& X0 X1 X3 X4 X5)) \Rightarrow (r2_analoaf X0 X1 X3 X2 X5)) \wedge (\neg(r2_analoaf X0 X1 X2 \\
& X3 X4) \wedge ((\neg r2_analoaf X0 X3 X4 X1 X2) \wedge (\neg r2_analoaf X0 X3 X4 X2 X1)))))))))) \wedge \\
& ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(\\
& m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\exists X4.(m1_subset_1 X4 (u1_struct_0 X0)) \wedge \\
& ((X3 \neq X4) \wedge (r2_analoaf X0 X3 X4 X1 X2)))))) \wedge (\forall X1.(m1_subset_1 \\
& X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\exists X4. \\
& (m1_subset_1 X4 (u1_struct_0 X0)) \wedge ((X3 \neq X4) \wedge (r2_analoaf X0 X1 \\
& X2 X3 X4)))))))))) \Rightarrow \\
& (5)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_dirort X0) \wedge (l1_analoaf X0))) \Rightarrow \\
& ((v4_dirort X0) \Rightarrow (v2_dirort X0))
\end{aligned}$$