

t9_afvect01 (TMLosvct-
tWXgzeB8b4ygDqToKa5GWtXBZdb)

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Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v1_afvect01 : \iota \Rightarrow o$ 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 $r1_afvect01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(l1_analoaf\ X0) \Rightarrow (l1_struct_0\ X0) \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0\ X0) \wedge ((v1_afvect01\ X0) \wedge (l1_analoaf\ X0))) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1\ X2\ (u1_struct_0\ X0)) \Rightarrow ((r1_afvect01\ X0\ X1\ X2) \Leftrightarrow (\exists X3. \\ & (m1_subset_1\ X3\ (u1_struct_0\ X0)) \wedge (\exists X4.(m1_subset_1\ X4 \\ & (u1_struct_0\ X0)) \wedge ((X3 \neq X4) \wedge ((r2_analoaf\ X0\ X1\ X2\ X3\ X4) \wedge ((r2_analoaf\ X0\ X1\ X3\ X3\ X2) \wedge (r2_analoaf\ X0\ X1\ X4\ X4\ X2)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_analoaf X0)) \Rightarrow ((v1_afvect01 \\
& \quad X0) \Leftrightarrow ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (r2_analoaf X0 X1 X2 X2 X1))) \wedge \\
& \quad ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(\\
& m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r2_analoaf X0 X1 X2 X1 X1) \Rightarrow (\\
& \quad X1 = X2)))))) \wedge ((\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 (((r2_analoaf X0 X1 X2 X5 X6) \wedge (r2_analoaf \\
& \quad X0 X3 X4 X5 X6)) \Rightarrow (r2_analoaf X0 X1 X2 X3 X4)))))) \wedge ((\forall X1. \\
& \quad (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge \\
& \quad (r2_analoaf X0 X1 X3 X3 X2)))))) \wedge ((\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 (((r2_analoaf X0 X5 X1 X5 X2) \wedge (r2_analoaf X0 X5 X3 X5 X4)) \Rightarrow ((X1 = X2) \vee \\
& \quad ((X3 = X4) \vee (r2_analoaf X0 X1 X3 X2 X4)))))) \wedge ((\forall X1.(m1_subset_1 \\
& \quad X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\neg(X1 \neq X2) \wedge (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\
& \quad ((\neg(X1 \neq X3) \wedge (r2_analoaf X0 X1 X2 X2 X3)) \wedge (\forall X4.(m1_subset_1 \\
& \quad X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\neg(X4 \neq X5) \wedge ((r2_analoaf X0 X1 X2 X4 X5) \wedge ((r2_analoaf X0 X1 \\
& \quad X4 X4 X2) \wedge (r2_analoaf X0 X1 X5 X5 X2)))))) \wedge ((\forall X1.(m1_subset_1 \\
& \quad X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. \\
& \quad (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow \\
& \quad (((r2_analoaf X0 X1 X2 X2 X6) \wedge ((r2_analoaf X0 X2 X3 X4 X5) \wedge ((r2_analoaf \\
& \quad X0 X2 X4 X4 X3) \wedge (r2_analoaf X0 X2 X5 X5 X3)))) \Rightarrow (r2_analoaf X0 X1 X3 \\
& \quad X3 X6)))))) \wedge ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
& \quad X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\neg(X1 \neq X4) \wedge ((X2 \neq X3) \wedge ((r2_analoaf X0 X1 X2 X2 X4) \wedge ((r2_analoaf \\
& \quad X0 X1 X3 X3 X4) \wedge (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\\
& \quad \forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\neg(X5 \neq X6) \wedge ((r2_analoaf \\
& \quad X0 X2 X3 X5 X6) \wedge ((r2_analoaf X0 X2 X5 X5 X3) \wedge (r2_analoaf X0 X2 X6 X6 \\
& \quad X3)))))) \wedge ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
& \quad X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. \\
& \quad (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 X7 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\neg(r2_analoaf X0 X1 X2 X4 X5) \wedge ((r2_analoaf X0 \\
& \quad X1 X3 X6 X7) \wedge ((r2_analoaf X0 X1 X4 X4 X2) \wedge ((r2_analoaf X0 X1 X6 X6 X3) \wedge \\
& \quad ((r2_analoaf X0 X1 X5 X5 X2) \wedge ((r2_analoaf X0 X1 X7 X7 X3) \wedge (\forall X8. \\
& \quad (m1_subset_1 X8 (u1_struct_0 X0)) \Rightarrow (\forall X9.(m1_subset_1 X9 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\neg(r2_analoaf X0 X2 X3 X8 X9) \wedge ((r2_analoaf X0 \\
& \quad X2 X8 X8 X3) \wedge (r2_analoaf X0 X2 X9 X9 X3)))))) \wedge (3)
\end{aligned}$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow ((v2_struct_0 X0) \Rightarrow (v7_struct_0 X0)) \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_afvect01 X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\neg(X1 \neq X2) \wedge ((\neg r1_afvect01 \\ & X0 X1 X2) \wedge (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg(X1 \neq \\ & X3) \wedge (r2_analoaf X0 X1 X2 X2 X3))))))) \end{aligned}$$