

t45_diraf (TMP-
TAK39LnrH6K9cNhvx4xzMoyWMUbG2HNW)

October 27, 2020

Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v2_analoaf : \iota \Rightarrow o$ be given. Let $v3_analoaf : \iota \Rightarrow o$ be given. Let $l1_analoaf : \iota \Rightarrow o$ be given. Let $k2_diraf : \iota \Rightarrow \iota$ be given. Let $v1_diraf : \iota \Rightarrow o$ be given. Let $v2_diraf : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ 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. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_analoaf X0)) \Rightarrow (\forall X1. \\ & ((\neg v7_struct_0 X1) \wedge ((v2_analoaf X1) \wedge ((v3_analoaf X1) \wedge (l1_analoaf \\ & X1)))) \Rightarrow ((X0 = k2_diraf X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. \\ & (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 \\ & (u1_struct_0 X0)) \Rightarrow (\neg(\neg r2_analoaf X0 X2 X3 X4 X5) \wedge (\forall X6.(\\ & m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\neg(r2_analoaf X0 X2 X3 X2 X6) \wedge \\ & (r2_analoaf X0 X4 X5 X4 X6)))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v2_analoaf X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow ((\neg v7_struct_0 (k2_diraf X0)) \wedge ((v1_diraf (k2_diraf X0)) \wedge \\ & (l1_analoaf (k2_diraf X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(l1_analoaf X0) \Rightarrow (l1_struct_0 X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_analoaf X0)) \Rightarrow ((v2_diraf X0) \Leftrightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\neg(\neg r2_analoaf \\ & X0 X1 X2 X3 X4) \wedge (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\\ & \neg(r2_analoaf X0 X1 X2 X1 X5) \wedge (r2_analoaf X0 X3 X4 X3 X5)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow ((v2_struct_0 X0) \Rightarrow (v7_struct_0 X0)) \quad (5)$$

Theorem 1

$$\forall X0.((\neg v7_struct_0 X0) \wedge ((v2_analoaf X0) \wedge ((v3_analoaf X0) \wedge (l1_analoaf X0)))) \Rightarrow ((\neg v7_struct_0 (k2_diraf X0)) \wedge ((v1_diraf (k2_diraf X0)) \wedge ((v2_diraf (k2_diraf X0)) \wedge (l1_analoaf (k2_diraf X0)))))$$