

t104_semi_af1 (TMcK-
MZD9gJvocK1iu4sCBvVHRK92C7KouW2)

October 27, 2020

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 $r5_semi_af1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_semi_af1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_semi_af1 X0) \wedge (l1_analoaf \\ & \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & \quad (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\ & \quad (((r1_semi_af1 X0 X1 X2 X4) \wedge (r1_semi_af1 X0 X1 X3 X4)) \Rightarrow ((r1_semi_af1 \\ & \quad X0 X1 X2 X3) \vee (X1 = X4)))))) \end{aligned} \tag{1}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_semi_af1 X0) \wedge (l1_analoaf \\ & \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\neg (r5_semi_af1 X0 X1 X2) \wedge (X1 = \\ & \quad X2)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_semi_af1 X0) \wedge (l1_analoaf \\ & \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\exists X3.(m1_subset_1 X3 \\ & \quad (u1_struct_0 X0)) \wedge ((r1_semi_af1 X0 X1 X2 X3) \wedge (r5_semi_af1 X0 X1 \\ & \quad X3)))) \end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_semi_af1 X0) \wedge (l1_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\neg(r5_semi_af1 X0 X1 X2) \wedge (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg(\neg r1_semi_af1 X0 X1 X2 X3) \wedge \\ & (r5_semi_af1 X0 X1 X3)))))) \end{aligned}$$