

t4_nattra_1 (TMUPSCYhEiGsFLBBNCeqJqGM- cmeiqFqZkQ7)

October 27, 2020

Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_cat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_cat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (u1_struct_0 \\ & (k3_cat_1 X0 X1))) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 (\\ & k3_cat_1 X0 X1))) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 (k3_cat_1 \\ & X0 X1))) \Rightarrow (\forall X5. (m1_subset_1 X5 (u1_struct_0 (k3_cat_1 X0 \\ & X1))) \Rightarrow (\forall X6. (m1_cat_1 X6 (k3_cat_1 X0 X1) X2 X3) \Rightarrow (\forall X7. \\ & (m1_cat_1 X7 (k3_cat_1 X0 X1) X4 X5) \Rightarrow (X6 = X7)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (u1_struct_0 \\ & (k3_cat_1 X0 X1))) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 (\\ & k3_cat_1 X0 X1))) \Rightarrow (\forall X4. (m1_subset_1 X4 (u4_struct_0 (k3_cat_1 \\ & X0 X1))) \Rightarrow (m1_cat_1 X4 (k3_cat_1 X0 X1) X2 X3))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \exists X1. m1_subset_1 X1 X0 \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (u4_struct_0 \\ & (k3_cat_1 X0 X1))) \Rightarrow (\forall X3. (m1_subset_1 X3 (u4_struct_0 (\\ & k3_cat_1 X0 X1))) \Rightarrow (X2 = X3)) \end{aligned}$$