

t11_cat_4

(TMKGj8UMaGnLmK9d1eikXJAFaJ2aSD3FVUi)

October 27, 2020

Let $v2_struct.0 : \iota \Rightarrow o$ be given. Let $v11_struct.0 : \iota \Rightarrow o$ be given. Let $v2_cat.1 : \iota \Rightarrow o$ be given. Let $v3_cat.1 : \iota \Rightarrow o$ be given. Let $v4_cat.1 : \iota \Rightarrow o$ be given. Let $v5_cat.1 : \iota \Rightarrow o$ be given. Let $v6_cat.1 : \iota \Rightarrow o$ be given. Let $v3_cat.4 : \iota \Rightarrow o$ be given. Let $l1_cat.4 : \iota \Rightarrow o$ be given. Let $v10_cat.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_cat.4 : \iota \Rightarrow \iota$ be given. Let $u1_cat.4 : \iota \Rightarrow \iota$ be given. Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct.0 : \iota \Rightarrow \iota$ be given. Let $k4_graph.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_binop.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4_struct.0 : \iota \Rightarrow \iota$ be given. Let $u3_cat.4 : \iota \Rightarrow \iota$ be given. Let $u4_cat.4 : \iota \Rightarrow \iota$ be given. Let $r2_cat.3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_binop.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_cat.4 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct.0 X0) \wedge ((\neg v11_struct.0 X0) \wedge ((v2_cat.1 \\
 & X0) \wedge ((v3_cat.1 X0) \wedge ((v4_cat.1 X0) \wedge ((v5_cat.1 X0) \wedge ((v6_cat.1 \\
 & X0) \wedge (l1_cat.4 X0)))))) \Rightarrow ((v3_cat.4 X0) \Leftrightarrow ((v10_cat.1 (u1_cat.4 \\
 & X0) X0) \wedge (\forall X1. (m1_subset.1 X1 (u1_struct.0 X0) \Rightarrow (\forall X2. \\
 & (m1_subset.1 X2 (u1_struct.0 X0) \Rightarrow ((k4_graph.1 X0 (k2_binop.1 \\
 & (u1_struct.0 X0) (u1_struct.0 X0) (u4_struct.0 X0) (u3_cat.4 X0) \\
 & X1 X2) = X1) \wedge ((k4_graph.1 X0 (k2_binop.1 (u1_struct.0 X0) (u1_struct.0 \\
 & X0) (u4_struct.0 X0) (u4_cat.4 X0) X1 X2) = X2) \wedge (r2_cat.3 X0 (k5_binop.1 \\
 & (u1_struct.0 X0) (u2_cat.4 X0) X1 X2) (k2_binop.1 (u1_struct.0 \\
 & X0) (u1_struct.0 X0) (u4_struct.0 X0) (u3_cat.4 X0) X1 X2) (k2_binop.1 \\
 & (u1_struct.0 X0) (u1_struct.0 X0) (u4_struct.0 X0) (u4_cat.4 X0) \\
 & X1 X2))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. ((\neg v2_struct.0 X0) \wedge ((\neg v11_struct.0 X0) \wedge (l1_cat.4 X0))) \Rightarrow (k1_cat.4 X0 = u1_cat.4 X0) \tag{2}$$

Theorem 1

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct.0 X0) \wedge ((\neg v11_struct.0 X0) \wedge ((v2_cat.1 \\
 & X0) \wedge ((v3_cat.1 X0) \wedge ((v4_cat.1 X0) \wedge ((v5_cat.1 X0) \wedge ((v6_cat.1 \\
 & X0) \wedge ((v3_cat.4 X0) \wedge (l1_cat.4 X0)))))) \Rightarrow (v10_cat.1 (k1_cat.4 \\
 & X0) X0)
 \end{aligned}$$