

t6_catalg_1 (TMNM- ryo62AiWY5RHQHZk9XspSfBZZzhtcB6)

October 27, 2020

Let $v3_catalg_1 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_catalg_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(l1_msualg_1 X0) \Rightarrow ((v3_catalg_1 X0) \Leftrightarrow (\exists X1.(\\
& (v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k5_numbers) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k5_numbers)))))) \wedge (\forall X2. \\
& \neg(X2 \in u1_struct_0 X0) \wedge (\forall X3.(m1_subset_1 X3 k5_numbers) \Rightarrow \\
& (\forall X4.(v1_relat_1 X4) \wedge ((v1_funct_1 X4) \wedge (v1_finseq_1 \\
& X4))) \Rightarrow (\neg(X2 = k4_tarski X3 X4) \wedge ((k3_finseq_1 X4 = k3_funct_2 k5_numbers \\
& k5_numbers X1 X3) \wedge (r1_tarski (k2_zfmisc_1 (k1_tarski X3) (k4_finseq_2 \\
& (k3_funct_2 k5_numbers k5_numbers X1 X3) (k4_catalg_1 X0))) (u1_struct_0 \\
& X0)))))) \wedge (\forall X2.\neg(X2 \in u4_struct_0 X0) \wedge (\forall X3.(m1_subset_1 \\
& X3 k5_numbers) \Rightarrow (\forall X4.(v1_relat_1 X4) \wedge ((v1_funct_1 X4) \wedge \\
& (v1_finseq_1 X4))) \Rightarrow (\neg(X2 = k4_tarski X3 X4) \wedge ((k3_finseq_1 X4 = \\
& k3_funct_2 k5_numbers k5_numbers X1 X3) \wedge (r1_tarski (k2_zfmisc_1 \\
& (k1_tarski X3) (k4_finseq_2 (k3_funct_2 k5_numbers k5_numbers \\
& X1 X3) (k4_catalg_1 X0))) (u4_struct_0 X0))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_msualg_1 X0) \Rightarrow (\forall X1.(X1 = k4_catalg_1 X0) \Leftrightarrow \\
& (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.\exists X4.((v1_relat_1 X4) \wedge \\
& (v1_funct_1 X4) \wedge ((k4_tarski X3 X4 \in k2_xboole_0 (u1_struct_0 \\
& X0) (u4_struct_0 X0)) \wedge (X2 \in k10_xtuple_0 X4))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v3_catalg_1 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\ & \neg((X1 \in u1_struct_0 X0) \vee (X1 \in u4_struct_0 X0)) \wedge (\forall X2.(m1_subset_1 \\ & X2 k5_numbers) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge ((v1_funct_1 X3) \wedge \\ & (v1_finseq_1 X3)))) \Rightarrow (\neg(X1 = k4_tarski X2 X3) \wedge (r1_tarski (k10_xtuple_0 \\ & X3) (k4_catalg_1 X0)))))) \end{aligned}$$