

t2_cat_4

(TMd4f6szVL2MsyomACsj8FtK7fTQowrARXf)

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Let $g1_cat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_cat_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_graph_1 : \iota \Rightarrow \iota$ be given. Let $u2_graph_1 : \iota \Rightarrow \iota$ be given. Let $u1_cat_1 : \iota \Rightarrow \iota$ be given. Let $k3_cat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_cat_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_cat_4 : \iota \Rightarrow o$ be given. Let $l1_cat_4 : \iota \Rightarrow o$ be given. Let $k1_algstr_1 : \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k17_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_cat_4 : \iota \Rightarrow \iota$ be given. Let $u2_cat_4 : \iota \Rightarrow \iota$ be given. Let $u3_cat_4 : \iota \Rightarrow \iota$ be given. Let $u4_cat_4 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. k7_funcop_1 X0 X1 = k2_funcop_1 X0 X1 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. k18_funcop_1 X0 X1 = k16_funcop_1 X0 X1 \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& \quad \forall X6.\forall X7.\forall X8.(((v1_funct_1 X2)\wedge((v1_funct_2 \\
& \quad X2 X1 X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0))))))\wedge \\
& \quad (((v1_funct_1 X3)\wedge((v1_funct_2 X3 X1 X0)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 X1 X0))))))\wedge(((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 (k2_zfmisc_1 X1 X1) X1))))\wedge((m1_subset_1 X5 X0)\wedge \\
& \quad (((v1_funct_1 X6)\wedge((v1_funct_2 X6 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 \\
& \quad X6 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))))\wedge(((v1_funct_1 \\
& \quad X7)\wedge((v1_funct_2 X7 (k2_zfmisc_1 X0 X0) X1)\wedge(m1_subset_1 X7 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X1))))))\wedge((v1_funct_1 X8)\wedge((\\
& \quad v1_funct_2 X8 (k2_zfmisc_1 X0 X0) X1)\wedge(m1_subset_1 X8 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X1)))))))))\Rightarrow(\forall X9.\forall X10. \\
& \quad \forall X11.\forall X12.\forall X13.\forall X14.\forall X15. \\
& \quad \forall X16.\forall X17.(g1_cat_4 X0 X1 X2 X3 X4 X5 X6 X7 X8 = g1_cat_4 \\
& \quad X9 X10 X11 X12 X13 X14 X15 X16 X17)\Rightarrow((X0 = X9)\wedge((X1 = X10)\wedge((X2 = X11)\wedge \\
& \quad ((X3 = X12)\wedge((X4 = X13)\wedge((X5 = X14)\wedge((X6 = X15)\wedge((X7 = X16)\wedge(X8 = X17))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(v2_cat_4 (k5_cat_4 X0 X1))\wedge(l1_cat_4 (k5_cat_4 X0 X1)) \tag{4}$$

Assume the following.

$$\forall X0.m1_subset_1 (k1_algstr_1 X0) (k1_tarski X0) \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(v1_funct_1 (k18_funcop_1 X0 X1))\wedge((v1_funct_2 \\
& (k18_funcop_1 X0 X1) (k1_tarski X0) (k1_tarski X1))\wedge(m1_subset_1 \\
& (k18_funcop_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k1_tarski X0) \\
& (k1_tarski X1))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(v1_funct_1 (k17_funcop_1 X0 \\
& X1 X2))\wedge((v1_funct_2 (k17_funcop_1 X0 X1 X2) (k2_zfmisc_1 (k1_tarski \\
& X0) (k1_tarski X1)) (k1_tarski X2))\wedge(m1_subset_1 (k17_funcop_1 \\
& X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k1_tarski X0) \\
& (k1_tarski X1)) (k1_tarski X2))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.k16_funcop_1 X0 X1 = k7_funcop_1 (k1_tarski X0) X1 \tag{8}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.k5_cat_4 X0 X1 = g1_cat_4 (k1_tarSKI X0) (\\ k1_tarSKI X1) (k18_funcop_1 X1 X0) (k18_funcop_1 X1 X0) (k17_funcop_1 \\ X1 X1 X1) (k1_algstr_1 X0) (k17_funcop_1 X0 X0 X0) (k17_funcop_1 \\ X0 X0 X1) (k17_funcop_1 X0 X0 X1) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k2_funcop_1 X0 X1 = k2_zfmisc_1 X0 (k1_tarSKI X1) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.k3_cat_1 X0 X1 = g1_cat_1 (k1_tarSKI X0) (\\ k1_tarSKI X1) (k18_funcop_1 X1 X0) (k18_funcop_1 X1 X0) (k17_funcop_1 \\ X1 X1 X1) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_cat_4 X0) \Rightarrow ((v2_cat_4 X0) \Rightarrow (X0 = g1_cat_4 (u1_struct_0 \\ X0) (u4_struct_0 X0) (u1_graph_1 X0) (u2_graph_1 X0) (u1_cat_1 \\ X0) (u1_cat_4 X0) (u2_cat_4 X0) (u3_cat_4 X0) (u4_cat_4 X0))) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.g1_cat_1 (u1_struct_0 (k5_cat_4 X0 X1)) \\ (u4_struct_0 (k5_cat_4 X0 X1)) (u1_graph_1 (k5_cat_4 X0 X1)) (u2_graph_1 \\ (k5_cat_4 X0 X1)) (u1_cat_1 (k5_cat_4 X0 X1)) = k3_cat_1 X0 X1 \end{aligned}$$