

t3_yellow18

(TMMbA3Hi1oQjGge9Y8QXMAAn4xmcboCRUpn4)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_altcat_2 : \iota \Rightarrow o$ be given. Let $l1_altcat_1 : \iota \Rightarrow o$ be given. Let $v8_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g2_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_altcat_1 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l1_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v9_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r8_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r8_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_pboole : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((l1_altcat_1 X0) \wedge \\
& ((l1_altcat_1 X1) \wedge (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X0)) (k2_zfmisc_1 (u1_struct_0 \\
& X1) (u1_struct_0 X1)))) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X1)))))) \wedge (m1_functor0 X3 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X0)) (k2_zfmisc_1 (u1_struct_0 \\
& X1) (u1_struct_0 X1)) X2 (u1_altcat_1 X0) (u1_altcat_1 X1)))))) \Rightarrow \\
& (\forall X4. \forall X5. \forall X6. \forall X7. (g2_functor0 X0 \\
& X1 X2 X3 = g2_functor0 X4 X5 X6 X7) \Rightarrow ((X0 = X4) \wedge ((X1 = X5) \wedge ((X2 = X6) \wedge \\
& (X3 = X7))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((l1_altcat_1 X0) \wedge ((l1_altcat_1 \\
& X1) \wedge (l2_functor0 X2 X0 X1))) \Rightarrow (m1_functor0 (u2_functor0 X0 X1 X2) \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X1)) (u1_functor0 X0 X1 X2) (u1_altcat_1 \\
& X0) (u1_altcat_1 X1))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((l1_struct_0 X0)\wedge((l1_struct_0 \\ & X1)\wedge(l1_functor0 X2 X0 X1)))\Rightarrow((v1_funct_1 (u1_functor0 X0 X1 X2))\wedge \\ & ((v1_funct_2 (u1_functor0 X0 X1 X2) (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)) (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\ & X1)))\wedge(m1_subset_1 (u1_functor0 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (k2_zfmisc_1 \\ & (u1_struct_0 X1) (u1_struct_0 X1))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((l1_altcat_1 X0)\wedge(l1_altcat_1 X1))\Rightarrow(\\ & \forall X2.(l2_functor0 X2 X0 X1)\Rightarrow(l1_functor0 X2 X0 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l1_altcat_1 X0)\Rightarrow(l1_struct_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v2_struct_0 \\ & X0)\wedge(l1_altcat_1 X0))\wedge(((\neg v2_struct_0 X1)\wedge((v1_altcat_2 X1)\wedge \\ & (l1_altcat_1 X1)))\wedge(((\neg v2_struct_0 X2)\wedge((v1_altcat_2 X2)\wedge(\\ & l1_altcat_1 X2))))\wedge(((v8_functor0 X3 X0 X1)\wedge(l2_functor0 X3 X0 \\ & X1))\wedge(l2_functor0 X4 X1 X2))))\Rightarrow((v9_functor0 (k13_functor0 \\ & X0 X1 X2 X3 X4) X0 X2)\wedge(l2_functor0 (k13_functor0 X0 X1 X2 X3 X4) X0 \\ & X2)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l1_altcat_1 X0))\Rightarrow(\forall X1. \\ & ((\neg v2_struct_0 X1)\wedge((v1_altcat_2 X1)\wedge(l1_altcat_1 X1)))\Rightarrow(\forall X2. \\ & ((\neg v2_struct_0 X2)\wedge((v1_altcat_2 X2)\wedge(l1_altcat_1 X2)))\Rightarrow(\forall X3. \\ & ((v8_functor0 X3 X0 X1)\wedge(l2_functor0 X3 X0 X1))\Rightarrow(\forall X4.(l2_functor0 \\ & X4 X1 X2)\Rightarrow(\forall X5.((v9_functor0 X5 X0 X2)\wedge(l2_functor0 X5 X0 \\ & X2))\Rightarrow((X5 = k13_functor0 X0 X1 X2 X3 X4)\Leftrightarrow((r8_binop_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0) (k2_zfmisc_1 (u1_struct_0 X2) (u1_struct_0 \\ & X2)) (u1_functor0 X0 X2 X5) (k1_partfun1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0)) (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\ & X1)) (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X1)) (k2_zfmisc_1 \\ & (u1_struct_0 X2) (u1_struct_0 X2)) (u1_functor0 X0 X1 X3) (u1_functor0 \\ & X1 X2 X4))))\wedge(r8_pboole (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\ & X0)) (u2_functor0 X0 X2 X5) (k8_pboole (u2_functor0 X0 X1 X3) (k3_relat_1 \\ & (u1_functor0 X0 X1 X3) (u2_functor0 X1 X2 X4)))))))))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_altcat_2 X0) \wedge (l1_altcat_1 \\ & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v1_altcat_2 X1) \wedge (l1_altcat_1 \\ & X1))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge ((v1_altcat_2 X2) \wedge (l1_altcat_1 \\ & X2))) \Rightarrow (\forall X3.((v8_functor0 X3 X0 X1) \wedge (l2_functor0 X3 X0 X1)) \Rightarrow \\ & (\forall X4.((v8_functor0 X4 X0 X1) \wedge (l2_functor0 X4 X0 X1)) \Rightarrow (\forall X5. \\ & (l2_functor0 X5 X1 X2) \Rightarrow (\forall X6.(l2_functor0 X6 X1 X2) \Rightarrow (((g2_functor0 \\ & X0 X1 (u1_functor0 X0 X1 X3) (u2_functor0 X0 X1 X3) = g2_functor0 X0 \\ & X1 (u1_functor0 X0 X1 X4) (u2_functor0 X0 X1 X4)) \wedge (g2_functor0 X1 \\ & X2 (u1_functor0 X1 X2 X5) (u2_functor0 X1 X2 X5) = g2_functor0 X1 X2 \\ & (u1_functor0 X1 X2 X6) (u2_functor0 X1 X2 X6))) \Rightarrow (k13_functor0 X0 \\ & X1 X2 X3 X5 = k13_functor0 X0 X1 X2 X4 X6)))))))))) \end{aligned}$$