

t3_yellow21 (TMW- puHXrainJG9eJ4TzJfYdKhG6iQD8TbDx)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_altcat_1 : \iota \Rightarrow o$ be given. Let $v11_altcat_1 : \iota \Rightarrow o$ be given. Let $v12_altcat_1 : \iota \Rightarrow o$ be given. Let $v2_yellow21 : \iota \Rightarrow o$ be given. Let $l2_altcat_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k5_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_yellow21 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_yellow21 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v9_altcat_1 : \iota \Rightarrow o$ be given. Let $v2_yellow18 : \iota \Rightarrow o$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_orders_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_yellow18 : \iota \Rightarrow o$ be given. Let $v1_yellow21 : \iota \Rightarrow o$ be given. Let $v3_yellow18 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge ((v9_altcat_1 \\
& X0) \wedge ((v11_altcat_1 X0) \wedge ((v12_altcat_1 X0) \wedge ((v2_yellow18 X0) \wedge \\
& (l2_altcat_1 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg (k1_altcat_1 X0 X1 X2 \neq k1_xboole_0) \wedge \\
& ((k1_altcat_1 X0 X2 X3 \neq k1_xboole_0) \wedge (\neg \forall X4. (m1_subset_1 \\
& X4 (k1_altcat_1 X0 X1 X2)) \Rightarrow (\forall X5. (m1_subset_1 X5 (k1_altcat_1 \\
& X0 X2 X3)) \Rightarrow (k5_altcat_1 X0 X1 X2 X3 X4 X5 = k3_relat_1 X4 X5))))))))) \\
& \tag{1}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\
& (((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X1)))) \wedge ((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X2 X3)))) \Rightarrow (k1_partfun1 X0 X1 X2 X3 X4 X5 = k3_relat_1 X4 X5) \\
& \tag{2}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\
& X0)\wedge((v2_altcat_1 X0)\wedge((v11_altcat_1 X0)\wedge((v12_altcat_1 X0)\wedge \\
& ((v2_yellow21 X0)\wedge(l2_altcat_1 X0))))))\wedge((m1_subset_1 X1 (u1_struct_0 \\
& X0))\wedge((m1_subset_1 X2 (u1_struct_0 X0))\wedge(m1_subset_1 X3 (k1_altcat_1 \\
& X0 X1 X2))))\Rightarrow((v1_funct_1 (k5_yellow21 X0 X1 X2 X3))\wedge((v1_funct_2 \\
& (k5_yellow21 X0 X1 X2 X3) (u1_struct_0 (k3_yellow21 X0 X1)) (u1_struct_0 \\
& (k3_yellow21 X0 X2))))\wedge((v5_orders_3 (k5_yellow21 X0 X1 X2 X3) (\\
& k3_yellow21 X0 X1) (k3_yellow21 X0 X2))\wedge(m1_subset_1 (k5_yellow21 \\
& X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k3_yellow21 \\
& X0 X1)) (u1_struct_0 (k3_yellow21 X0 X2))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0)\wedge((v2_altcat_1 X0)\wedge((v11_altcat_1 \\
& X0)\wedge((v12_altcat_1 X0)\wedge((v2_yellow21 X0)\wedge(l2_altcat_1 X0))))))\Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 \\
& X2 (u1_struct_0 X0))\Rightarrow((k1_altcat_1 X0 X1 X2\neq k1_xboole_0)\Rightarrow(\forall X3. \\
& (m1_subset_1 X3 (k1_altcat_1 X0 X1 X2))\Rightarrow(k5_yellow21 X0 X1 X2 X3 = \\
& X3))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l2_altcat_1 X0)\Rightarrow(((\neg v2_struct_0 X0)\wedge((v2_altcat_1 \\
& X0)\wedge((v11_altcat_1 X0)\wedge((v12_altcat_1 X0)\wedge(v2_yellow21 X0))))))\Rightarrow \\
& ((\neg v2_struct_0 X0)\wedge((v2_altcat_1 X0)\wedge((v11_altcat_1 X0)\wedge((\\
& v12_altcat_1 X0)\wedge((v4_yellow18 X0)\wedge(v1_yellow21 X0))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l2_altcat_1 X0)\Rightarrow(((\neg v2_struct_0 X0)\wedge((v2_altcat_1 \\
& X0)\wedge((v11_altcat_1 X0)\wedge((v12_altcat_1 X0)\wedge(v4_yellow18 X0))))))\Rightarrow \\
& ((\neg v2_struct_0 X0)\wedge((v2_altcat_1 X0)\wedge((v9_altcat_1 X0)\wedge((v11_altcat_1 \\
& X0)\wedge((v12_altcat_1 X0)\wedge((v2_yellow18 X0)\wedge(v3_yellow18 X0))))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0)\wedge((v2_altcat_1 X0)\wedge((v11_altcat_1 \\
& X0)\wedge((v12_altcat_1 X0)\wedge((v2_yellow21 X0)\wedge(l2_altcat_1 X0))))))\Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 \\
& X2 (u1_struct_0 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& X0))\Rightarrow(\neg(k1_altcat_1 X0 X1 X2\neq k1_xboole_0)\wedge((k1_altcat_1 X0 X2 \\
& X3\neq k1_xboole_0)\wedge(\neg\forall X4.(m1_subset_1 X4 (k1_altcat_1 X0 \\
& X1 X2))\Rightarrow(\forall X5.(m1_subset_1 X5 (k1_altcat_1 X0 X2 X3))\Rightarrow(k5_altcat_1 \\
& X0 X1 X2 X3 X4 X5 = k1_partfun1 (u1_struct_0 (k3_yellow21 X0 X1)) (\\
& u1_struct_0 (k3_yellow21 X0 X2)) (u1_struct_0 (k3_yellow21 X0 \\
& X2)) (u1_struct_0 (k3_yellow21 X0 X3)) (k5_yellow21 X0 X1 X2 X4) \\
& (k5_yellow21 X0 X2 X3 X5))))))))))
\end{aligned}$$