

t4_amistd_4

(TMLcy4ZL552bFjv2YoYv5znpjQtQngP2x3Ud)

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Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_amistd_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_amistd_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v5_funct_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_amistd_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $k2_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0))) \Rightarrow (\forall X2. ((v1_relat_1 \\ & X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge ((v1_funct_1 X2) \wedge ((v5_funct_1 \\ & X2 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 X2 (u1_struct_0 X1)))))) \Rightarrow \\ & (\forall X3. (m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (k1_funct_1 X2 \\ & X3 \in k4_memstr_0 X0 X1 X3)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. k2_funct_7 X0 X1 (k1_funct_1 X0 X1) = X0) \tag{2}$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. (X2 \in k9_xtuple_0 X0) \Rightarrow (k1_funct_1 (k2_funct_7 X0 X2 X1) X2 = X1)) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow((\forall X3.(m1_subset_1 \\ & X3 X0)\Rightarrow((X3 \in X1)\Rightarrow(X3 \in X2))\Rightarrow(r1_tarski X1 X2))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1)\Rightarrow((v1_xboole_0 X1)\vee (X0 \in X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1)\Rightarrow(m1_subset_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((-v1_setfam_1 \\ & X0)\wedge(((\neg v2_struct_0 X1)\wedge((v2_memstr_0 X1 X0)\wedge((v3_memstr_0 \\ & X1 X0)\wedge(l1_extpro_1 X1 X0))))\wedge(((v1_relat_1 X2)\wedge((v4_relat_1 \\ & X2 (u1_struct_0 X1))\wedge((v1_funct_1 X2)\wedge((v5_funct_1 X2 (k2_memstr_0 \\ & X0 X1))\wedge(v1_partfun1 X2 (u1_struct_0 X1))))))\wedge((m1_subset_1 \\ & X3 (u1_struct_0 X1))\wedge(m1_subset_1 X4 (k4_memstr_0 X0 X1 X3))))))\Rightarrow \\ & (k1_amistd_4 X0 X1 X2 X3 X4 = k2_funct_7 X2 X3 X4) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0)\Rightarrow(l1_struct_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(l1_memstr_0 X1 X0)\Rightarrow(l2_struct_0 X1) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1 X1 X0)\Rightarrow((l1_memstr_0 X1 X0)\wedge (l1_compos_1 X1)) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((-v1_setfam_1 X0)\wedge(((\neg v2_struct_0 \\ & X1)\wedge((v2_memstr_0 X1 X0)\wedge((v3_memstr_0 X1 X0)\wedge(l1_extpro_1 X1 \\ & X0))))\wedge(m1_subset_1 X2 (u1_compos_1 X1))))\Rightarrow(m1_subset_1 (k4_amistd_4 \\ & X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X1))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_setfam_1 X0) \wedge \\
& (((v2_memstr_0 X1 X0) \wedge (l1_extpro_1 X1 X0)) \wedge ((m1_subset_1 X2 (\\
& u1_compos_1 X1)) \wedge ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 \\
& X1)) \wedge ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 X0 X1)) \wedge (\\
& v1_partfun1 X3 (u1_struct_0 X1)))))))))) \Rightarrow ((v1_relat_1 (k2_extpro_1 \\
& X0 X1 X2 X3)) \wedge ((v4_relat_1 (k2_extpro_1 X0 X1 X2 X3) (u1_struct_0 \\
& X1)) \wedge ((v1_funct_1 (k2_extpro_1 X0 X1 X2 X3)) \wedge ((v5_funct_1 (k2_extpro_1 \\
& X0 X1 X2 X3) (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 (k2_extpro_1 X0 X1 \\
& X2 X3) (u1_struct_0 X1))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((\neg v1_setfam_1 X0) \wedge (((\neg v2_struct_0 \\
& X1) \wedge ((v2_memstr_0 X1 X0) \wedge (l1_extpro_1 X1 X0))) \wedge (m1_subset_1 \\
& X2 (u1_compos_1 X1)))) \Rightarrow (m1_subset_1 (k2_amistd_4 X0 X1 X2) (k1_zfmisc_1 \\
& (u1_struct_0 X1)))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
& ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_extpro_1 X1 X0)))) \Rightarrow \\
& (\forall X2. (m1_subset_1 X2 (u1_compos_1 X1)) \Rightarrow (\forall X3. (m1_subset_1 \\
& X3 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow ((X3 = k4_amistd_4 X0 X1 X2) \Leftrightarrow \\
& (\forall X4. (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow ((X4 \in X3) \Leftrightarrow (\neg \forall X5. \\
& ((v1_relat_1 X5) \wedge ((v4_relat_1 X5 (u1_struct_0 X1)) \wedge ((v1_funct_1 \\
& X5) \wedge ((v5_funct_1 X5 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 X5 (u1_struct_0 \\
& X1)))))) \Rightarrow (\forall X6. (m1_subset_1 X6 (k4_memstr_0 X0 X1 X4)) \Rightarrow \\
& (k2_extpro_1 X0 X1 X2 (k1_amistd_4 X0 X1 X5 X4 X6) = k1_amistd_4 X0 \\
& X1 (k2_extpro_1 X0 X1 X2 X5) X4 X6))))))
\end{aligned} \tag{16}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
& ((v2_memstr_0 X1 X0) \wedge (l1_extpro_1 X1 X0))) \Rightarrow (\forall X2. (m1_subset_1 \\
& X2 (u1_compos_1 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 \\
& (u1_struct_0 X1))) \Rightarrow ((X3 = k2_amistd_4 X0 X1 X2) \Leftrightarrow (\forall X4. (m1_subset_1 \\
& X4 (u1_struct_0 X1)) \Rightarrow ((X4 \in X3) \Leftrightarrow (\neg \forall X5. ((v1_relat_1 X5) \wedge \\
& ((v4_relat_1 X5 (u1_struct_0 X1)) \wedge ((v1_funct_1 X5) \wedge ((v5_funct_1 \\
& X5 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 X5 (u1_struct_0 X1)))))) \Rightarrow \\
& (k1_funct_1 X5 X4 = k1_funct_1 (k2_extpro_1 X0 X1 X2 X5) X4))))))
\end{aligned} \tag{17}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\
& (v1_partfun1 X1 X0) \Leftrightarrow (k1_relset_1 X0 X1 = X0)
\end{aligned} \tag{18}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_extpro_1 X1 X0)))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_compos_1 X1)) \Rightarrow (r1_tarski (k2_amistd_4 \\ & X0 X1 X2) (k4_amistd_4 X0 X1 X2)))) \end{aligned}$$