

t5_amistd_2

(TMVFRLFviYQAxqaeAozBqJKHznufJqCHrQB)

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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 $v3_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_amistd_2 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v4_compos_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k2_amistd_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v1_compos_0 : \iota \Rightarrow o$ be given. Let $v2_compos_0 : \iota \Rightarrow o$ be given. Let $v3_compos_0 : \iota \Rightarrow o$ be given. Let $v5_compos_0 : \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_amistd_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_xboole_0 (k10_xtuple_0 X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_compos_1 X0) \Rightarrow & ((v1_compos_0 (u1_compos_1 X0)) \wedge \\ & ((v2_compos_0 (u1_compos_1 X0)) \wedge ((v3_compos_0 (u1_compos_1 \\ & X0)) \wedge (v5_compos_0 (u1_compos_1 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1 X1 X0) \Rightarrow ((l1_memstr_0 X1 X0) \wedge (l1_compos_1 X1)) \quad (3)$$

Assume the following.

$$\forall X0.(v1_compos_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow ((v4_compos_0 X1 X0) \Leftrightarrow (v1_xboole_0 (k5_xtuple_0 X1)))) \quad (4)$$

Assume the following.

$$\forall X0.k5_xtuple_0 X0 = k2_xtuple_0 (k1_xtuple_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_extpro_1 X1 X0)))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_compos_1 X1)) \Rightarrow ((v1_amistd_2 \\ & X2 X0 X1) \Leftrightarrow (k2_amistd_1 X0 X1 X2 = k10_xtuple_0 (k5_xtuple_0 X2)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_setfam_1 X0) \wedge ((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge ((v2_amistd_2 X1 X0) \wedge \\ & (l1_extpro_1 X1 X0)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_compos_1 \\ & X1)) \Rightarrow (v1_amistd_2 X2 X0 X1)) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge ((v3_extpro_1 X1 X0) \wedge \\ & ((v2_amistd_2 X1 X0) \wedge (l1_extpro_1 X1 X0)))))) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_compos_1 X1)) \Rightarrow ((v4_compos_0 X2 (u1_compos_1 X1)) \Rightarrow (v1_xboole_0 \\ & (k2_amistd_1 X0 X1 X2)))))) \end{aligned}$$