

t4_amistd_5
(TMdMMg7rzhD637TLfUty7MyP9x8bvb2y1bi)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. 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 $v2_amistd_5 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_relat_1 : \iota \Rightarrow o$ 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 $r8_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v5_compos_0 : \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_amistd_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1_xboole_0 X0) \wedge ((v1_compos_0 X0) \wedge ((v2_compos_0 \\ & X0) \wedge (v3_compos_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow (k5_compos_0 \\ & X0 X1 k6_numbers = X1)) \end{aligned} \tag{1}$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \tag{2}$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 X0) \Rightarrow (k2_xcmplx_0 X0 k6_numbers = X0) \tag{3}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{4}$$

Assume the following.

$$\forall X0.(l1_compos_1 X0) \Rightarrow ((v1_compos_0 (u1_compos_1 X0)) \wedge ((v2_compos_0 (u1_compos_1 X0)) \wedge ((v3_compos_0 (u1_compos_1 X0)) \wedge (v5_compos_0 (u1_compos_1 X0)))))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1 X1 X0) \Rightarrow ((l1_memstr_0 X1 X0) \wedge (l1_compos_1 X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge ((v3_extpro_1 X1 X0) \wedge \\ & (l1_extpro_1 X1 X0)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_compos_1 \\ & X1)) \Rightarrow ((v1_amistd_5 X2 X0 X1) \Leftrightarrow (\forall X3.(v7_ordinal1 X3) \Rightarrow (\forall X4. \\ & (v7_ordinal1 X4) \Rightarrow (\forall X5.((v1_relat_1 X5) \wedge ((v4_relat_1 \\ & X5 (u1_struct_0 X1)) \wedge ((v1_funct_1 X5) \wedge ((v5_funct_1 X5 (k2_memstr_0 \\ & X0 X1)) \wedge (v1_partfun1 X5 (u1_struct_0 X1)))))) \Rightarrow (r8_pboole (u1_struct_0 \\ & X1) (k2_extpro_1 X0 X1 (k5_compos_0 (u1_compos_1 X1) X2 (k2_xcmplx_0 \\ & X3 X4)) (k9_memstr_0 X0 X1 X5 X4)) (k9_memstr_0 X0 X1 (k2_extpro_1 \\ & X0 X1 (k5_compos_0 (u1_compos_1 X1) X2 X3) X5) X4))))))))) \quad (7) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k2_xcmplx_0 X0 X1 = k2_xcmplx_0 X1 X0) \quad (8)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.(v5_compos_0 X0) \Rightarrow (\neg v1_xboole_0 X0) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_setfam_1 X0) \wedge ((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge ((v3_extpro_1 X1 X0) \wedge \\ & ((v2_amistd_5 X1 X0) \wedge (l1_extpro_1 X1 X0)))))) \Rightarrow (\forall X2.(\\ & m1_subset_1 X2 (u1_compos_1 X1)) \Rightarrow (v1_amistd_5 X2 X0 X1)) \quad (12) \end{aligned}$$

Theorem 1

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(\neg v1_setfam_1\ X1) \Rightarrow (\\ \forall X2.((\neg v2_struct_0\ X2) \wedge (v2_memstr_0\ X2\ X1) \wedge (v3_memstr_0 \\ X2\ X1) \wedge (v3_extpro_1\ X2\ X1) \wedge (v2_amistd_5\ X2\ X1) \wedge (l1_extpro_1 \\ X2\ X1)))) \Rightarrow (\forall X3.(m1_subset_1\ X3\ (u1_compos_1\ X2)) \Rightarrow (\forall X4. \\ ((v1_relat_1\ X4) \wedge (v4_relat_1\ X4\ (u1_struct_0\ X2)) \wedge (v1_funct_1 \\ X4) \wedge (v5_funct_1\ X4\ (k2_memstr_0\ X1\ X2)) \wedge (v1_partfun1\ X4\ (u1_struct_0 \\ X2)))) \Rightarrow (r8_pboole\ (u1_struct_0\ X2)\ (k2_extpro_1\ X1\ X2\ (k5_compos_0 \\ (u1_compos_1\ X2)\ X3\ X0)\ (k9_memstr_0\ X1\ X2\ X4\ X0))\ (k9_memstr_0\ X1 \\ X2\ (k2_extpro_1\ X1\ X2\ X3\ X4)\ X0)))))) \end{aligned}$$