

t6_scmpds_3

(TMKDEyaVv9aVMNJM08s5hVB1cvpcyMwBLXs)

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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 $k1_scmpds_2 : \iota$ 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 $np_2 : \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmpds_2))) \Rightarrow (X0 \neq k4_struct_0 k1_scmpds_2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (k9_xtuple_0 (k2_funcop_1 X0 X1) = X0) \wedge (r1_tarski (k10_xtuple_0 (k2_funcop_1 X0 X1)) (k1_tarski X1)) \quad (3)$$

Assume the following.

$$((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \quad (4)$$

Assume the following.

$$\neg v1_xboole_0 \ np_2 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k7_funcop_1 \ X0 \ X1 = k2_funcop_1 \ X0 \ X1 \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 \ X1)\wedge(v4_relat_1 \ X1 \ X0))\Rightarrow(\quad (8)$$

$$k1_relset_1 \ X0 \ X1 = k9_xtuple_0 \ X1)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_setfam_1 \ X0)\wedge((\neg v2_struct_0 \ X1)\wedge$$

$$((v2_memstr_0 \ X1 \ X0)\wedge((v3_memstr_0 \ X1 \ X0)\wedge(l1_memstr_0 \ X1 \ X0))))\Rightarrow$$

$$(\exists X2.(\neg v1_xboole_0 \ X2)\wedge((v1_relat_1 \ X2)\wedge((v4_relat_1$$

$$X2 \ (u1_struct_0 \ X1))\wedge((v1_funct_1 \ X2)\wedge(v5_funct_1 \ X2 \ (k2_memstr_0$$

$$X0 \ X1)))))) \quad (9)$$

Assume the following.

$$(v2_memstr_0 \ k1_scmpds_2 \ np_2)\wedge((v3_memstr_0 \ k1_scmpds_2 \ np_2)\wedge$$

$$(v1_extpro_1 \ k1_scmpds_2 \ np_2)) \quad (10)$$

Assume the following.

$$(\neg v2_struct_0 \ k1_scmpds_2)\wedge(v1_extpro_1 \ k1_scmpds_2 \ np_2) \quad (11)$$

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.

$$\forall X0.\forall X1.\forall X2.((\neg v1_setfam_1 \ X0)\wedge(((\neg v2_struct_0$$

$$X1)\wedge((v2_memstr_0 \ X1 \ X0)\wedge((v3_memstr_0 \ X1 \ X0)\wedge(l1_memstr_0 \ X1$$

$$X0))))\wedge(v7_ordinal1 \ X2))\Rightarrow((v1_relat_1 \ (k7_memstr_0 \ X0 \ X1 \ X2))\wedge$$

$$((v4_relat_1 \ (k7_memstr_0 \ X0 \ X1 \ X2) \ (u1_struct_0 \ X1))\wedge((v1_funct_1$$

$$(k7_memstr_0 \ X0 \ X1 \ X2))\wedge(v5_funct_1 \ (k7_memstr_0 \ X0 \ X1 \ X2) \ (k2_memstr_0$$

$$X0 \ X1)))))) \quad (13)$$

Assume the following.

$$(v1_extpro_1 \ k1_scmpds_2 \ np_2)\wedge(l1_extpro_1 \ k1_scmpds_2 \ np_2) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1 X0)\wedge(v1_funct_1 X0))\wedge((v1_relat_1 X1)\wedge(v1_funct_1 X1)))\Rightarrow((v1_relat_1 (k1_funct_4 X0 X1))\wedge(v1_funct_1 (k1_funct_4 X0 X1))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.k16_funcop_1 X0 X1 = k7_funcop_1 (k1_tarski X0) X1 \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_xboole_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\vee(X3 \in X1))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow((v1_partfun1 X1 X0)\Leftrightarrow(k1_relset_1 X0 X1 = X0)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1_tarski X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(X2 = X0)) \quad (19)$$

Assume the following.

$$\forall X0.(((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow(\forall X1.(((v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow(\forall X2.(((v1_relat_1 X2)\wedge(v1_funct_1 X2))\Rightarrow((X2 = k1_funct_4 X0 X1)\Leftrightarrow((k9_xtuple_0 X2 = k2_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 X1))\wedge(\forall X3.(X3 \in k2_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 X1))\Rightarrow(((X3 \in k9_xtuple_0 X1)\Rightarrow(k1_funct_1 X2 X3 = k1_funct_1 X1 X3))\wedge((\neg X3 \in k9_xtuple_0 X1)\Rightarrow(k1_funct_1 X2 X3 = k1_funct_1 X0 X3)))))))))) \quad (20)$$

Assume the following.

$$\forall X0.(\neg v1_setfam_1 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge((v2_memstr_0 X1 X0)\wedge((v3_memstr_0 X1 X0)\wedge(l1_memstr_0 X1 X0))))\Rightarrow(\forall X2.(v7_ordinal1 X2)\Rightarrow(k7_memstr_0 X0 X1 X2 = k16_funcop_1 (k4_struct_0 X1) X2))) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow((v1_xboole_0 X1)\wedge((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0)))) \quad (23)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v7_ordinal1 X0) \wedge (\neg v1_setfam_1 X0))) \quad (24)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmpds_2)) \wedge \\ & ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge \\ & (v1_partfun1 X0 (u1_struct_0 k1_scmpds_2)))))) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 k5_numbers) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 \\ & X2 (u1_struct_0 k1_scmpds_2))) \Rightarrow (k1_funct_1 X0 X2 = k1_funct_1 \\ & (k1_funct_4 X0 (k7_memstr_0 np_2 k1_scmpds_2 X1)) X2))) \end{aligned}$$