

t4_scmfsa8b (TMQd-
KdhK4KMpZcYWcLtV86EsrBZS58pcdCG)

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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 $k1_scmfsa_2 : \iota$ 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 $np_3 : \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $k6_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r8_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
& ((v2_memstr_0 X1 X0) \wedge (v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\
& (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\
& ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 \\
& X2 (u1_struct_0 X1)))))) \Rightarrow (\forall X3. ((v1_relat_1 X3) \wedge ((v4_relat_1 \\
& X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 \\
& X0 X1)) \wedge (v1_partfun1 X3 (u1_struct_0 X1)))))) \Rightarrow ((k6_memstr_0 \\
& X0 X1 X2 = k6_memstr_0 X0 X1 X3) \Rightarrow (k8_memstr_0 X0 X1 X2 = k8_memstr_0 \\
& X0 X1 X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& ((v2_xxreal_0 np_3) \wedge (m2_subset_1 np_3 k1_numbers k5_numbers)) \wedge \\
& ((m1_subset_1 np_3 k5_numbers) \wedge (m1_subset_1 np_3 k1_numbers))
\end{aligned} \tag{2}$$

Assume the following.

$$\neg v1_xboole_0 np_3 \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((v1_relat_1 \\ & X1) \wedge ((v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 X0)))) \wedge \\ & ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 \\ & X2 X0)))))) \Rightarrow (r8_pboole X0 X1 X1) \end{aligned} \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$(v3_memstr_0 k1_scmf_sa_2 np_3) \wedge (v1_extpro_1 k1_scmf_sa_2 np_3) \quad (6)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 \\ (u1_struct_0 X0)) \quad (7)$$

Assume the following.

$$(\neg v2_struct_0 k1_scmf_sa_2) \wedge ((v2_memstr_0 k1_scmf_sa_2 np_3) \wedge \\ (v1_extpro_1 k1_scmf_sa_2 np_3)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_setfam_1 X0) \wedge (((\neg v2_struct_0 \\ & X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 \\ & X0)))) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\ & (v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 \\ & X2 (u1_struct_0 X1)))))) \Rightarrow ((v1_relat_1 (k8_memstr_0 X0 X1 X2)) \wedge \\ & ((v4_relat_1 (k8_memstr_0 X0 X1 X2) (u1_struct_0 X1)) \wedge ((v1_funct_1 \\ & (k8_memstr_0 X0 X1 X2) \wedge ((v5_funct_1 (k8_memstr_0 X0 X1 X2) (k2_memstr_0 \\ & X0 X1)) \wedge (v1_partfun1 (k8_memstr_0 X0 X1 X2) (u1_struct_0 X1)))))) \end{aligned} \quad (9)$$

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.

$$(v1_extpro_1\ k1_scmfsa_2\ np_3) \wedge (l1_extpro_1\ k1_scmfsa_2\ np_3) \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1) \Rightarrow (v7_ordinal1\ X0) \quad (14)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0\ X0) \wedge (v7_ordinal1\ X0)) \Rightarrow ((\neg v1_xboole_0\ X0) \wedge ((v7_ordinal1\ X0) \wedge (\neg v1_setfam_1\ X0))) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1\ X0) \wedge ((v4_relat_1\ X0\ (u1_struct_0\ k1_scmfsa_2)) \wedge \\ & ((v1_funct_1\ X0) \wedge ((v5_funct_1\ X0\ (k2_memstr_0\ np_3\ k1_scmfsa_2)) \wedge \\ & (v1_partfun1\ X0\ (u1_struct_0\ k1_scmfsa_2)))))) \Rightarrow (\forall X1. \\ & ((v1_relat_1\ X1) \wedge ((v4_relat_1\ X1\ (u1_struct_0\ k1_scmfsa_2)) \wedge \\ & ((v1_funct_1\ X1) \wedge ((v5_funct_1\ X1\ (k2_memstr_0\ np_3\ k1_scmfsa_2)) \wedge \\ & (v1_partfun1\ X1\ (u1_struct_0\ k1_scmfsa_2)))))) \Rightarrow (\forall X2. \\ & ((\neg v1_xboole_0\ X2) \wedge ((v1_relat_1\ X2) \wedge ((v4_relat_1\ X2\ k5_numbers) \wedge \\ & ((v5_relat_1\ X2\ (u1_compos_1\ k1_scmfsa_2)) \wedge ((v1_funct_1\ X2) \wedge \\ & ((v1_finset_1\ X2) \wedge (v1_afinsq_1\ X2)))))) \Rightarrow (\forall X3.((\neg v1_xboole_0\ X3) \wedge ((v1_relat_1\ X3) \wedge ((v4_relat_1\ X3\ k5_numbers) \wedge ((v5_relat_1\ X3\ (u1_compos_1\ k1_scmfsa_2)) \wedge ((v1_funct_1\ X3) \wedge ((v1_finset_1\ X3) \wedge (v1_afinsq_1\ X3)))))) \Rightarrow ((k6_memstr_0\ np_3\ k1_scmfsa_2\ X0 = k6_memstr_0\ np_3\ k1_scmfsa_2\ X1) \Rightarrow (r8_pboole\ (u1_struct_0\ k1_scmfsa_2)\ (k8_memstr_0\ np_3\ k1_scmfsa_2\ X0)\ (k8_memstr_0\ np_3\ k1_scmfsa_2\ X1)))))) \end{aligned}$$