

t5_scmfsa8c (TMKqpJNMCW- pbwm92AvV6i4t96d8mzrpstB8)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $r6_scmfsa7b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_scmfsa_m : \iota \Rightarrow \iota$ be given. Let $v5_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_scmfsa_2 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ 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 $v1_ami_2 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v4_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_scmfsa_m : \iota \Rightarrow o$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((r1_tarski X0 X1) \Rightarrow (k1_funct_4 X1 X0 = X1))) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\ & (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\ & ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 X0 X1)) \wedge (v5_memstr_0 \\ & X2 X0 X1 k6_numbers)))))) \Rightarrow (k8_memstr_0 X0 X1 X2 = X2)) \end{aligned} \quad (2)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_3) \wedge (m2_subset_1 np_3 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_3 k5_numbers) \wedge (m1_subset_1 np_3 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\neg v1_xboole_0 np_3 \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 \\ & k1_scmf_sa_2))) \wedge (v7_ordinal1 X1)) \Rightarrow ((v1_relat_1 (k16_funcop_1 \\ & X0 X1)) \wedge ((v4_relat_1 (k16_funcop_1 X0 X1) (u1_struct_0 k1_scmf_sa_2)) \wedge \\ & ((v1_funct_1 (k16_funcop_1 X0 X1)) \wedge ((v5_funct_1 (k16_funcop_1 \\ & X0 X1) (k2_memstr_0 np_3 k1_scmf_sa_2)) \wedge (v4_memstr_0 (k16_funcop_1 \\ & X0 X1) np_3 k1_scmf_sa_2)))))) \end{aligned} \quad (9)$$

Assume the following.

$$(v1_ami_2 (k4_scmf_sa_2 k6_numbers)) \wedge (v1_scmf_sa_m (k4_scmf_sa_2 k6_numbers)) \quad (10)$$

Assume the following.

$$(v3_memstr_0 k1_scmf_sa_2 np_3) \wedge (v1_extpro_1 k1_scmf_sa_2 np_3) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmfsa_2)) \wedge \\ & ((v1_funct_1 X0) \wedge (v5_funct_1 X0 (k2_memstr_0 np_3 k1_scmfsa_2)))))) \Rightarrow \\ & ((v1_relat_1 (k1_scmfsa_m X0)) \wedge ((v4_relat_1 (k1_scmfsa_m X0) \\ & (u1_struct_0 k1_scmfsa_2)) \wedge ((v1_funct_1 (k1_scmfsa_m X0)) \wedge \\ & ((v5_funct_1 (k1_scmfsa_m X0) (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge \\ & (v5_memstr_0 (k1_scmfsa_m X0) np_3 k1_scmfsa_2 k6_numbers)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & (\neg v2_struct_0 k1_scmfsa_2) \wedge ((v2_memstr_0 k1_scmfsa_2 np_3) \wedge \\ & (v1_extpro_1 k1_scmfsa_2 np_3)) \end{aligned} \quad (13)$$

Assume the following.

$$(v1_extpro_1 k1_scmfsa_2 np_3) \wedge (v3_extpro_1 k1_scmfsa_2 np_3) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1_relat_1 (k16_funcop_1 X0 X1)) \wedge (v1_funct_1 \\ & (k16_funcop_1 X0 X1)) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (l1_extpro_1 X1 X0) \Rightarrow ((l1_memstr_0 X1 X0) \wedge \\ & (l1_compos_1 X1)) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_setfam_1 X0) \wedge (((\neg v2_struct_0 \\ & X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 \\ & X0)))))) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge (\\ & (v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow ((v1_relat_1 \\ & (k8_memstr_0 X0 X1 X2)) \wedge ((v4_relat_1 (k8_memstr_0 X0 X1 X2) (u1_struct_0 \\ & X1)) \wedge ((v1_funct_1 (k8_memstr_0 X0 X1 X2)) \wedge (v5_funct_1 (k8_memstr_0 \\ & X0 X1 X2) (k2_memstr_0 X0 X1)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1_funct_1 (k7_funcop_1 X0 X1)) \wedge ((v1_funct_2 \\ & (k7_funcop_1 X0 X1) X0 (k1_tarski X1)) \wedge (m1_subset_1 (k7_funcop_1 \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 (k1_tarski X1)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1 X0) \Rightarrow ((v1_ami_2 (k4_scmfsa_2 X0)) \wedge (m1_subset_1 \\ & (k4_scmfsa_2 X0) (u1_struct_0 k1_scmfsa_2))) \end{aligned} \quad (19)$$

Assume the following.

$$(v1_extpro_1 k1_scmfsa_2 np_3) \wedge (l1_extpro_1 k1_scmfsa_2 np_3) \quad (20)$$

Assume the following.

$$\forall X0. \forall X1. k16_funcop_1 X0 X1 = k7_funcop_1 (k1_tarski X0) X1 \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v4_relat_1 \\ & X0 k5_numbers) \wedge ((v5_relat_1 X0 (u1_compos_1 k1_scmfsa_2)) \wedge \\ & (v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow (\\ & \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 k1_scmfsa_2)) \wedge \\ & ((v1_funct_1 X1) \wedge ((v5_funct_1 X1 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge \\ & (v1_partfun1 X1 (u1_struct_0 k1_scmfsa_2)))))) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 \\ & (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 \\ & k5_numbers)))))) \Rightarrow ((r6_scmfsa7b X0 X1 X2) \Leftrightarrow (r1_extpro_1 np_3 k1_scmfsa_2 \\ & (k1_funct_4 X2 X0) (k8_memstr_0 np_3 k1_scmfsa_2 X1)))))) \end{aligned} \quad (22)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmfsa_2)) \wedge \\ & ((v1_funct_1 X0) \wedge (v5_funct_1 X0 (k2_memstr_0 np_3 k1_scmfsa_2)))))) \Rightarrow \\ & (k1_scmfsa_m X0 = k1_funct_4 X0 (k8_memstr_0 np_3 k1_scmfsa_2 \\ & (k16_funcop_1 (k4_scmfsa_2 k6_numbers) np_1))) \end{aligned} \quad (23)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1_xboole_0 X0) \wedge (\neg v1_setfam_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge \\ & ((v3_extpro_1 X1 X0) \wedge (l1_extpro_1 X1 X0)))))) \Rightarrow (\forall X2. ((v1_relat_1 \\ & X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\ & X1)) \wedge (v1_funct_1 X2)))))) \Rightarrow (\forall X3. ((v1_relat_1 X3) \wedge ((v4_relat_1 \\ & X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 X3) \wedge (v5_funct_1 X3 (k2_memstr_0 \\ & X0 X1)))))) \Rightarrow ((v5_extpro_1 X3 X0 X1 X2) \Leftrightarrow (\forall X4. ((v1_relat_1 \\ & X4) \wedge ((v4_relat_1 X4 (u1_struct_0 X1)) \wedge ((v1_funct_1 X4) \wedge ((v5_funct_1 \\ & X4 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 X4 (u1_struct_0 X1)))))) \Rightarrow \\ & ((r1_tarski X3 X4) \Rightarrow (\forall X5. ((v1_relat_1 X5) \wedge ((v4_relat_1 \\ & X5 k5_numbers) \wedge ((v5_relat_1 X5 (u1_compos_1 X1)) \wedge ((v1_funct_1 \\ & X5) \wedge (v1_partfun1 X5 k5_numbers)))))) \Rightarrow ((r1_tarski X2 X5) \Rightarrow (r1_extpro_1 \\ & X0 X1 X5 X4)))))) \end{aligned} \quad (24)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (25)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v7_ordinal1 X0) \wedge (\neg v1_setfam_1 X0))) \quad (26)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v4_relat_1 \\ & X0 \ k5_numbers) \wedge ((v5_relat_1 X0 (u1_compos_1 k1_scmfsa_2)) \wedge \\ & (v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow (\\ & (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 k1_scmfsa_2)) \wedge \\ & ((v1_funct_1 X1) \wedge ((v5_funct_1 X1 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge \\ & (v1_partfun1 X1 (u1_struct_0 k1_scmfsa_2)))))) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 \ k5_numbers) \wedge ((v5_relat_1 X2 \\ & (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 \\ & k5_numbers)))))) \Rightarrow (r6_scmfsa7b X0 (k1_scmfsa_m X1 X2))) \Rightarrow (v5_extpro_1 \\ & (k8_memstr_0 np_3 k1_scmfsa_2 (k16_funcop_1 (k4_scmfsa_2 k6_numbers) \\ & np_1)) np_3 k1_scmfsa_2 X0)) \end{aligned}$$