

t9_scmpds_3

(TMQ1EuDF8KN8NRjkztUSs7YmbyDejwKCBgz)

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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 $k5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_scmpds_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ 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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v5_finset_1 : \iota \Rightarrow o$ 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 $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v5_card_3 : \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $v4_card_3 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmpds_2)) \wedge \\
 & ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge \\
 & (v1_partfun1 X0 (u1_struct_0 k1_scmpds_2)))))) \Rightarrow (\forall X1. \\
 & ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 k1_scmpds_2)) \wedge \\
 & ((v1_funct_1 X1) \wedge ((v5_funct_1 X1 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge \\
 & (v1_partfun1 X1 (u1_struct_0 k1_scmpds_2)))))) \Rightarrow (\forall X2. \\
 & (v1_int_1 X2) \Rightarrow (\forall X3. (v1_int_1 X3) \Rightarrow (\forall X4. (v1_int_1 \\
 & X4) \Rightarrow (\neg (k5_memstr_0 np_2 k1_scmpds_2 X0 = k5_memstr_0 np_2 k1_scmpds_2 \\
 & X1) \wedge ((X2 \neq X3) \wedge ((X4 = k5_memstr_0 np_2 k1_scmpds_2 X0) \wedge ((r1_xxreal_0 \\
 & k6_numbers (k2_xcmplx_0 X4 X2)) \wedge ((r1_xxreal_0 k6_numbers (k2_xcmplx_0 \\
 & X4 X3)) \wedge (k17_scmpds_2 X0 X2 = k17_scmpds_2 X1 X3))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (r1_xxreal_0 k6_numbers X0) \tag{2}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\neg v1_xboole_0 \ np_2 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 \ X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge \\ & (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & \ X2 \ X0 \ X1) \Leftrightarrow (m1_subset_1 \ X2 \ X1)) \end{aligned} \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1_subset_1 \ X0 \ k5_numbers) \wedge (v7_ordinal1 \\ & \ X1)) \Rightarrow (k2_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \end{aligned} \quad (7)$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (8)$$

Assume the following.

$$\forall X0. (v1_finset_1 \ X0) \Rightarrow (v5_finset_1 \ (k1_zfmisc_1 \ X0)) \quad (9)$$

Assume the following.

$$\begin{aligned} & (v2_memstr_0 \ k1_scmpds_2 \ np_2) \wedge ((v3_memstr_0 \ k1_scmpds_2 \ np_2) \wedge \\ & \ (v1_extpro_1 \ k1_scmpds_2 \ np_2)) \end{aligned} \quad (10)$$

Assume the following.

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

Assume the following.

$$v5_card_3 \ k4_ordinal1 \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (l1_extpro_1 \ X1 \ X0) \Rightarrow ((l1_memstr_0 \ X1 \ X0) \wedge \\ & \ (l1_compos_1 \ X1)) \end{aligned} \quad (13)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_setfam_1 X0) \wedge (((\neg v2_struct_0 \\ & X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 \\ & X0)))) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge (\\ & (v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow (m2_subset_1 \\ & (k5_memstr_0 X0 X1 X2) k1_numbers k5_numbers) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge (v7_ordinal1 X1)) \Rightarrow (m2_subset_1 (k2_nat_1 X0 X1) k1_numbers k5_numbers) \quad (16)$$

Assume the following.

$$(v1_extpro_1 k1_scmpds_2 np_2) \wedge (l1_extpro_1 k1_scmpds_2 np_2) \quad (17)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (18)$$

Assume the following.

$$\forall X0. (v5_finset_1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow (v1_finset_1 X1)) \quad (19)$$

Assume the following.

$$\forall X0. (v5_card_3 X0) \Rightarrow ((\neg v1_finset_1 X0) \wedge (v4_card_3 X0)) \quad (20)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (v1_int_1 X0) \quad (21)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v1_finset_1 X0) \quad (22)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v7_ordinal1 X0) \wedge (\neg v1_setfam_1 X0))) \quad (23)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmpds_2)) \wedge \\ & ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge \\ & (v1_partfun1 X0 (u1_struct_0 k1_scmpds_2)))))) \Rightarrow (\forall X1. \\ & ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 k1_scmpds_2)) \wedge \\ & ((v1_funct_1 X1) \wedge ((v5_funct_1 X1 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge \\ & (v1_partfun1 X1 (u1_struct_0 k1_scmpds_2)))))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3. (m1_subset_1 X3 k5_numbers) \Rightarrow \\ & (\neg (k5_memstr_0 np_2 k1_scmpds_2 X0 = k5_memstr_0 np_2 k1_scmpds_2 \\ & X1) \wedge ((X2 \neq X3) \wedge (k17_scmpds_2 X0 X2 = k17_scmpds_2 X1 X3)))))) \end{aligned}$$