

t23_scmpds_8

(TMW6kNxRQrtLsJaT6d94WKe9q4GaLbe5oTe)

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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 $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmpds_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $np_2 : \iota$ be given. Let $v5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_scmpds_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_scmpds_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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 $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ 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 $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ 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 $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

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.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v5_relat_1 \\
& X0 \ (u1_compos_1 \ k1_scmpds_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\
& X0 \ k5_numbers)))))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\
& X1 \ (u1_struct_0 \ k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\
& X1 \ (k2_memstr_0 \ np_2 \ k1_scmpds_2)) \wedge ((v1_partfun1 X1 \ (u1_struct_0 \\
& k1_scmpds_2)) \wedge (v5_memstr_0 X1 \ np_2 \ k1_scmpds_2 \ k6_numbers)))))) \Rightarrow \\
& (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 \\
& X2 \ k5_numbers) \wedge ((v5_relat_1 X2 \ (u1_compos_1 \ k1_scmpds_2)) \wedge \\
& (v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 X2)))))) \Rightarrow (\\
& \forall X3.((v1_ami_2 X3) \wedge (m1_subset_1 X3 \ (u1_struct_0 \ k1_scmpds_2))) \Rightarrow \\
& (\forall X4.((v1_ami_2 X4) \wedge (m1_subset_1 X4 \ (u1_struct_0 \ k1_scmpds_2))) \Rightarrow \\
& (\forall X5.(v1_int_1 X5) \Rightarrow ((r1_xxreal_0 \ (k1_funct_1 X1 \ (k2_scmpds_2 \\
& (k1_funct_1 X1 X3) X5)) \ k6_numbers) \Rightarrow (k6_scmpds_4 \ (k2_scmpds_8 \\
& X3 X5 X2) X1 X0 = k1_funct_4 X1 \ (k7_memstr_0 \ np_2 \ k1_scmpds_2 \ (k2_nat_1 \\
& (k5_card_1 X2) \ np_2))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 \ (u1_struct_0 \ k1_scmpds_2))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 \ k5_numbers) \Rightarrow (\neg X0 \in k9_xtuple_0 \ (k7_memstr_0 \\
& \ np_2 \ k1_scmpds_2 \ X1)))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\
& ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((\neg X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\
& (k1_funct_4 X2 X1) X0 = k1_funct_1 X2 X0)))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& ((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\
& ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers))
\end{aligned} \tag{6}$$

Assume the following.

$$\neg v1_xboole_0 \ np_2 \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 \ (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\
& X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
\end{aligned} \tag{8}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{9}$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \tag{10}$$

Assume the following.

$$(v2_memstr_0\ k1_scmpds_2\ np_2) \wedge ((v3_memstr_0\ k1_scmpds_2\ np_2) \wedge (v1_extpro_1\ k1_scmpds_2\ np_2)) \quad (11)$$

Assume the following.

$$(\neg v2_struct_0\ k1_scmpds_2) \wedge (v1_extpro_1\ k1_scmpds_2\ np_2) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1\ X1\ X0) \Rightarrow ((l1_memstr_0\ X1\ X0) \wedge (l1_compos_1\ X1)) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_setfam_1\ X0) \wedge (((\neg v2_struct_0\ X1) \wedge ((v2_memstr_0\ X1\ X0) \wedge (v3_memstr_0\ X1\ X0) \wedge (l1_memstr_0\ X1\ X0))) \wedge (v7_ordinal1\ X2))) \Rightarrow ((v1_relat_1\ (k7_memstr_0\ X0\ X1\ X2)) \wedge \\ & ((v4_relat_1\ (k7_memstr_0\ X0\ X1\ X2)\ (u1_struct_0\ X1)) \wedge ((v1_funct_1\ (k7_memstr_0\ X0\ X1\ X2)) \wedge (v5_funct_1\ (k7_memstr_0\ X0\ X1\ X2)\ (k2_memstr_0\ X0\ X1)))))) \end{aligned} \quad (14)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (15)$$

Assume the following.

$$\forall X0.(v1_finset_1\ X0) \Rightarrow (m1_subset_1\ (k5_card_1\ X0)\ k4_ordinal1) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1\ X0\ k5_numbers) \wedge (v7_ordinal1\ X1)) \Rightarrow (m2_subset_1\ (k2_nat_1\ X0\ X1)\ k1_numbers\ k5_numbers) \quad (17)$$

Assume the following.

$$(v1_extpro_1\ k1_scmpds_2\ np_2) \wedge (l1_extpro_1\ k1_scmpds_2\ np_2) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1\ X0\ k5_numbers) \wedge (v7_ordinal1\ X1)) \Rightarrow (k2_nat_1\ X0\ X1 = k2_nat_1\ X1\ X0) \quad (19)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1) \Rightarrow (v7_ordinal1\ X0) \quad (20)$$

Assume the following.

$$\forall X0.(((\neg v1_xboole_0\ X0) \wedge (v7_ordinal1\ X0)) \Rightarrow ((\neg v1_xboole_0\ X0) \wedge ((v7_ordinal1\ X0) \wedge (\neg v1_setfam_1\ X0)))) \quad (21)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\ & X0 k5_numbers)))))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\ & X1 (u1_struct_0 k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\ & X1 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge ((v1_partfun1 X1 (u1_struct_0 \\ & k1_scmpds_2)) \wedge (v5_memstr_0 X1 np_2 k1_scmpds_2 k6_numbers)))))) \Rightarrow \\ & (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 \\ & X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 k1_scmpds_2)) \wedge \\ & (v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 X2)))))) \Rightarrow (\\ & \forall X3.((v1_ami_2 X3) \wedge (m1_subset_1 X3 (u1_struct_0 k1_scmpds_2))) \Rightarrow \\ & (\forall X4.((v1_ami_2 X4) \wedge (m1_subset_1 X4 (u1_struct_0 k1_scmpds_2))) \Rightarrow \\ & (\forall X5.(v1_int_1 X5) \Rightarrow ((r1_xreal_0 (k1_funct_1 X1 (k2_scmpds_2 \\ & (k1_funct_1 X1 X3) X5)) k6_numbers) \Rightarrow (k1_funct_1 (k6_scmpds_4 \\ & (k2_scmpds_8 X3 X5 X2) X1 X0) X4 = k1_funct_1 X1 X4)))))) \end{aligned}$$