

t94_scmpds_6
(TMVN6CqEaUb3WbKkDuKXCrPEthLwLqNbgzt)

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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 $v1_xboole_0 : \iota \Rightarrow o$ 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 $k6_numbers : \iota$ be given. Let $k6_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_scmpds_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
& X0 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\
& X0 k5_numbers)))))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\
& X1 (u1_struct_0 k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\
& X1 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge (v1_partfun1 X1 (u1_struct_0 \\
& k1_scmpds_2)))))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 \\
& X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\
& k1_scmpds_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 \\
& X2)))))) \Rightarrow (\forall X3.((v1_ami_2 X3) \wedge (m1_subset_1 X3 (u1_struct_0 \\
& k1_scmpds_2))) \Rightarrow (\forall X4.(v1_int_1 X4) \Rightarrow ((\neg v1_xxreal_0 (k1_funct_1 \\
& X1 (k2_scmpds_2 (k1_funct_1 X1 X3) X4)) k6_numbers) \Rightarrow (k6_scmpds_4 \\
& (k8_scmpds_6 X3 X4 X2) (k8_memstr_0 np_2 k1_scmpds_2 X1) X0 = k1_funct_4 \\
& X1 (k7_memstr_0 np_2 k1_scmpds_2 (k2_nat_1 (k5_card_1 X2) np_2))))))))) \\
& \tag{1}
\end{aligned}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{3}$$

Assume the following.

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

Assume the following.

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

Assume the following.

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

Assume the following.

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

Assume the following.

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

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (9)$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (10)$$

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.

$$\forall X0. (m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (19)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole_0 \ X0) \wedge (v7_ordinal1 \ X0)) \Rightarrow ((\neg v1_xboole_0 \ X0) \wedge ((v7_ordinal1 \ X0) \wedge (\neg v1_setfam_1 \ X0))) \quad (20)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\ & X0 k5_numbers)))))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\ & X1 (u1_struct_0 k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\ & X1 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge (v1_partfun1 X1 (u1_struct_0 \\ & k1_scmpds_2)))))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 \\ & X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\ & k1_scmpds_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 \\ & X2)))))) \Rightarrow (\forall X3.((v1_ami_2 X3) \wedge (m1_subset_1 X3 (u1_struct_0 \\ & k1_scmpds_2))) \Rightarrow (\forall X4.((v1_ami_2 X4) \wedge (m1_subset_1 X4 (\\ & u1_struct_0 k1_scmpds_2))) \Rightarrow (\forall X5.(v1_int_1 X5) \Rightarrow ((\neg r1_xreal_0 \\ & (k1_funct_1 X1 (k2_scmpds_2 (k1_funct_1 X1 X3) X5)) k6_numbers) \Rightarrow \\ & (k1_funct_1 (k6_scmpds_4 (k8_scmpds_6 X3 X5 X2) (k8_memstr_0 np_2 \\ & k1_scmpds_2 X1) X0) X4 = k1_funct_1 X1 X4)))))) \end{aligned}$$