

t1_scmfsa8c
(TMUDX2Rwdep653yGtxmuwxFGbt5nobyAZFC)

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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 $k1_scmfsa_2 : \iota$ 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 $np_3 : \iota$ 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 $r1_scmfsa8a : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k2_scmfsa8a : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (k5_card_1 X0 = k1_card_1 X0) \quad (1)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow (k2_afinsq_1 X0 = k9_xtuple_0 X0) \quad (2)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow (k1_card_1 X0 = k9_xtuple_0 X0) \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((v1_relat_1 X0) \wedge ((v4_relat_1 \\
& X0 (u1_struct_0 k1_scmf_sa_2)) \wedge ((v1_funct_1 X0) \wedge ((v5_funct_1 \\
& X0 (k2_memstr_0 np_3 k1_scmf_sa_2)) \wedge (v1_partfun1 X0 (u1_struct_0 \\
& k1_scmf_sa_2)))))) \wedge (((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\
& ((v5_relat_1 X1 (u1_compos_1 k1_scmf_sa_2)) \wedge ((v1_funct_1 X1) \wedge \\
& (v1_partfun1 X1 k5_numbers)))))) \wedge ((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 \\
& X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\
& k1_scmf_sa_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 \\
& X2))))))))) \Rightarrow (m2_subset_1 (k2_scmf_sa8a X0 X1 X2) k1_numbers k5_numbers)
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmf_sa_2)) \wedge \\
& ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_3 k1_scmf_sa_2)) \wedge \\
& (v1_partfun1 X0 (u1_struct_0 k1_scmf_sa_2)))))) \Rightarrow (\forall X1. \\
& ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\
& (u1_compos_1 k1_scmf_sa_2)) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 \\
& k5_numbers)))))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 \\
& X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\
& k1_scmf_sa_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 \\
& X2))))))))) \Rightarrow ((r1_scmf_sa8a X0 X1 X2) \Rightarrow (\forall X3. (m2_subset_1 X3 \\
& k1_numbers k5_numbers) \Rightarrow ((X3 = k2_scmf_sa8a X0 X1 X2) \Leftrightarrow ((k5_memstr_0 \\
& np_3 k1_scmf_sa_2 (k5_extpro_1 np_3 k1_scmf_sa_2 (k1_funct_4 \\
& X1 X2) (k8_memstr_0 np_3 k1_scmf_sa_2 X0) X3) = k5_card_1 X2) \wedge (\forall X4. \\
& (m2_subset_1 X4 k1_numbers k5_numbers) \Rightarrow ((\neg k5_memstr_0 np_3 \\
& k1_scmf_sa_2 (k5_extpro_1 np_3 k1_scmf_sa_2 (k1_funct_4 X1 X2) \\
& (k8_memstr_0 np_3 k1_scmf_sa_2 X0) X4) \in k2_afinsq_1 X2) \Rightarrow (r1_xreal_0 \\
& X3 X4)))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\
& X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow ((v1_relat_1 X0) \wedge \\
& ((v5_ordinal1 X0) \wedge (v1_funct_1 X0)))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (\neg X1 \in X0) \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\ & X0 k5_numbers)))))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\ & X1 (u1_struct_0 k1_scmfsa_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\ & X1 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge (v1_partfun1 X1 (u1_struct_0 \\ & k1_scmfsa_2)))))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 \\ & X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\ & k1_scmfsa_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 \\ & X2)))))) \Rightarrow ((r1_scmfsa8a X1 X0 X2) \Rightarrow (\forall X3.(m2_subset_1 X3 \\ & k1_numbers k5_numbers) \Rightarrow (\neg (\forall X4.(m2_subset_1 X4 k1_numbers \\ & k5_numbers) \Rightarrow ((r1_xxreal_0 X4 X3) \Rightarrow (k5_memstr_0 np_3 k1_scmfsa_2 \\ & (k5_extpro_1 np_3 k1_scmfsa_2 (k1_funct_4 X0 X2) (k8_memstr_0 \\ & np_3 k1_scmfsa_2 X1) X4) \in k2_afinsq_1 X2))) \wedge (r1_xxreal_0 (k2_scmfsa8a \\ & X1 X0 X2) X3)))))) \end{aligned}$$