

t24_scmfsa8c

(TMW_y8xXABZMQWrK5Rbjn6FWrmvLsUatocMf)

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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 $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_scmfsa_2 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $r1_scmfsa8a : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_scmfsa_m : \iota \Rightarrow \iota$ be given. Let $k6_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
 & X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\
 & X0 k5_numbers)))))) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 \\
 & X1 k5_numbers) \wedge ((v5_relat_1 X1 (u1_compos_1 k1_scmfsa_2)) \wedge \\
 & (v1_funct_1 X1) \wedge (v1_partfun1 X1 k5_numbers)))))) \Rightarrow (\forall X2. \\
 & ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 k1_scmfsa_2)) \wedge \\
 & ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge \\
 & (v1_partfun1 X2 (u1_struct_0 k1_scmfsa_2)))))) \Rightarrow (\forall X3. \\
 & ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 k1_scmfsa_2)) \wedge \\
 & ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge \\
 & (v1_partfun1 X3 (u1_struct_0 k1_scmfsa_2)))))) \Rightarrow (\forall X4. \\
 & ((\neg v1_xboole_0 X4) \wedge ((v1_relat_1 X4) \wedge ((v4_relat_1 X4 k5_numbers) \wedge \\
 & ((v5_relat_1 X4 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X4) \wedge \\
 & ((v1_finset_1 X4) \wedge (v1_afinsq_1 X4)))))) \Rightarrow (((k6_memstr_0 np_3 \\
 & k1_scmfsa_2 X2 = k6_memstr_0 np_3 k1_scmfsa_2 X3) \wedge (r1_scmfsa8a \\
 & X2 X0 X4)) \Rightarrow (r1_scmfsa8a X3 X1 X4))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmf_sa_2)) \wedge \\ & ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_3 k1_scmf_sa_2)) \wedge \\ & (v1_partfun1 X0 (u1_struct_0 k1_scmf_sa_2)))))) \Rightarrow ((k1_funct_1 \\ & X0 (k4_scmf_sa_2 k6_numbers) = np_1) \Rightarrow (k6_memstr_0 np_3 k1_scmf_sa_2 \\ & (k1_scmf_sa_m X0) = k6_memstr_0 np_3 k1_scmf_sa_2 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmf_sa_2)) \wedge \\ & ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_3 k1_scmf_sa_2)) \wedge \\ & (v1_partfun1 X0 (u1_struct_0 k1_scmf_sa_2)))))) \Rightarrow ((v1_relat_1 \\ & (k1_scmf_sa_m X0)) \wedge ((v4_relat_1 (k1_scmf_sa_m X0) (u1_struct_0 \\ & k1_scmf_sa_2)) \wedge ((v1_funct_1 (k1_scmf_sa_m X0)) \wedge ((v5_funct_1 \\ & (k1_scmf_sa_m X0) (k2_memstr_0 np_3 k1_scmf_sa_2)) \wedge (v1_partfun1 \\ & (k1_scmf_sa_m X0) (u1_struct_0 k1_scmf_sa_2)))))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmf_sa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\ & X0 k5_numbers)))))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\ & X1 (u1_struct_0 k1_scmf_sa_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\ & X1 (k2_memstr_0 np_3 k1_scmf_sa_2)) \wedge (v1_partfun1 X1 (u1_struct_0 \\ & k1_scmf_sa_2)))))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 \\ & X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\ & k1_scmf_sa_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 \\ & X2)))))) \Rightarrow ((k1_funct_1 X1 (k4_scmf_sa_2 k6_numbers) = np_1) \Rightarrow \\ & ((r1_scmf_sa8a X1 X0 X2) \Leftrightarrow (r1_scmf_sa8a (k1_scmf_sa_m X1) X0 X2)))))) \end{aligned}$$