

t31_scmfsa8c
(TMW3ABnwK7cY6Y4czkacXA753JGF5fQadQt)

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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 $k2_scmfsa6a : \iota \Rightarrow \iota$ be given. Let $k6_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_scmfsa6b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_compos_1 : \iota \Rightarrow \iota$ 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 $k2_scmfsa8a : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_m : \iota \Rightarrow \iota$ be given. Let $v7_amistd_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_scmfsa7b : \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v1_zfmisc_1 : \iota \Rightarrow o$ 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

$v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
& X0 (u1_compos_1 k1_scmf_sa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\
& X0 k5_numbers)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\
& X1 (u1_struct_0 k1_scmf_sa_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\
& X1 (k2_memstr_0 np_3 k1_scmf_sa_2)) \wedge (v1_partfun1 X1 (u1_struct_0 \\
& k1_scmf_sa_2)))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 \\
& X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\
& k1_scmf_sa_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 \\
& X2)))))) \Rightarrow ((r1_scmf_sa8a X1 X0 (k2_scmf_sa6a X2)) \Rightarrow (k6_memstr_0 \\
& np_3 k1_scmf_sa_2 (k6_extpro_1 np_3 k1_scmf_sa_2 (k1_funct_4 \\
& X0 (k3_scmf_sa6a X2 (k4_compos_1 k1_scmf_sa_2))) (k8_memstr_0 np_3 \\
& k1_scmf_sa_2 X1)) = k6_memstr_0 np_3 k1_scmf_sa_2 (k5_extpro_1 \\
& np_3 k1_scmf_sa_2 (k1_funct_4 X0 X2) (k8_memstr_0 np_3 k1_scmf_sa_2 \\
& X1) (k2_scmf_sa8a X1 X0 (k2_scmf_sa6a X2)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmf_sa_2)) \wedge \\
& ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_3 k1_scmf_sa_2)) \wedge \\
& (v1_partfun1 X0 (u1_struct_0 k1_scmf_sa_2)))))) \Rightarrow ((k1_funct_1 \\
& X0 (k4_scmf_sa_2 k6_numbers) = np_1) \Rightarrow (k8_memstr_0 np_3 k1_scmf_sa_2 \\
& X0 = k1_scmf_sa_m X0))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& (v1_relat_1 (k4_compos_1 k1_scmf_sa_2)) \wedge ((v4_relat_1 (k4_compos_1 \\
& k1_scmf_sa_2) k5_numbers) \wedge ((v5_relat_1 (k4_compos_1 k1_scmf_sa_2) \\
& (u1_compos_1 k1_scmf_sa_2)) \wedge ((v1_funct_1 (k4_compos_1 k1_scmf_sa_2)) \wedge \\
& ((v1_finset_1 (k4_compos_1 k1_scmf_sa_2)) \wedge ((v7_amistd_1 (k4_compos_1 \\
& k1_scmf_sa_2) np_3 k1_scmf_sa_2) \wedge (v1_scmf_sa7b (k4_compos_1 k1_scmf_sa_2)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_compos_1 X0) \Rightarrow ((\neg v1_xboole_0 (k4_compos_1 X0)) \wedge \\
& ((v1_zfmisc_1 (k4_compos_1 X0)) \wedge ((v1_relat_1 (k4_compos_1 X0)) \wedge \\
& ((v4_relat_1 (k4_compos_1 X0) k5_numbers) \wedge ((v5_relat_1 (k4_compos_1 \\
& X0) (u1_compos_1 X0)) \wedge ((v1_funct_1 (k4_compos_1 X0)) \wedge ((v1_finset_1 \\
& (k4_compos_1 X0)) \wedge (v1_afinsq_1 (k4_compos_1 X0))))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1.(l1_extpro_1 X1 X0) \Rightarrow ((l1_memstr_0 X1 X0) \wedge \\
& (l1_compos_1 X1))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\
& ((v5_relat_1 X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X0) \wedge \\
& ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \wedge \\
& ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\
& (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X1) \wedge ((v1_funct_1 \\
& X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow ((v1_relat_1 \\
& (k3_scmfsa6a X0 X1)) \wedge ((v4_relat_1 (k3_scmfsa6a X0 X1) k5_numbers) \wedge \\
& ((v5_relat_1 (k3_scmfsa6a X0 X1) (u1_compos_1 k1_scmfsa_2)) \wedge \\
& ((\neg v1_xboole_0 (k3_scmfsa6a X0 X1)) \wedge ((v1_funct_1 (k3_scmfsa6a \\
& X0 X1)) \wedge ((v1_finset_1 (k3_scmfsa6a X0 X1)) \wedge (v1_afinsq_1 (k3_scmfsa6a \\
& X0 X1)))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$(v1_extpro_1 k1_scmfsa_2 np_3) \wedge (l1_extpro_1 k1_scmfsa_2 np_3) \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
& X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 \\
& X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow (\forall X1. (\\
& (v1_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 k1_scmfsa_2)) \wedge \\
& ((v1_funct_1 X1) \wedge ((v5_funct_1 X1 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge \\
& (v1_partfun1 X1 (u1_struct_0 k1_scmfsa_2)))))) \Rightarrow (\forall X2. \\
& ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 \\
& (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 \\
& k5_numbers)))))) \Rightarrow (k1_scmfsa6b X0 X1 X2 = k6_extpro_1 np_3 k1_scmfsa_2 \\
& (k1_funct_4 X2 X0) (k1_scmfsa_m X1)))
\end{aligned} \tag{8}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
& X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\
& X0 k5_numbers)))))) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 \\
& X1 (u1_struct_0 k1_scmfsa_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\
& X1 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge (v1_partfun1 X1 (u1_struct_0 \\
& k1_scmfsa_2)))))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 \\
& X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\
& k1_scmfsa_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 \\
& X2)))))) \Rightarrow (((k1_funct_1 X1 (k4_scmfsa_2 k6_numbers) = np_1) \wedge \\
& (r1_scmfsa8a X1 X0 (k2_scmfsa6a X2)) \Rightarrow (k6_memstr_0 np_3 k1_scmfsa_2 \\
& (k1_scmfsa6b (k3_scmfsa6a X2 (k4_compos_1 k1_scmfsa_2)) X1 X0) = \\
& k6_memstr_0 np_3 k1_scmfsa_2 (k5_extpro_1 np_3 k1_scmfsa_2 \\
& (k1_funct_4 X0 X2) (k8_memstr_0 np_3 k1_scmfsa_2 X1) (k2_scmfsa8a \\
& X1 X0 (k2_scmfsa6a X2))))))
\end{aligned}$$