

t15_scmfsa9a
(TMKdLVG4dvUGdJUrxStRAbG4ZbZNeo6rw2V)

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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 $v1_ami_2 : \iota \Rightarrow o$ be given. Let $v1_scmfsa_m : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v7_amistd_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_scmfsa9a : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r6_scmfsa7b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_scmfsa_9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r5_scmfsa7b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_scmfsa9a : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
& X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\
& X0 k5_numbers)))))) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 \\
& X1 (u1_struct_0 k1_scmfsa_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\
& X1 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge (v1_partfun1 X1 (u1_struct_0 \\
& k1_scmfsa_2)))))) \Rightarrow (\forall X2. ((v1_ami_2 X2) \wedge ((\neg v1_scmfsa_m \\
& X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2)))) \Rightarrow (\forall X3. \\
& ((\neg v1_xboole_0 X3) \wedge ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 k5_numbers) \wedge \\
& ((v5_relat_1 X3 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X3) \wedge \\
& ((v1_finset_1 X3) \wedge (v1_afinsq_1 X3)))))) \Rightarrow (((r1_scmfsa9a X0 \\
& X1 X2 X3) \wedge (r2_scmfsa9a X0 X1 X2 X3)) \Rightarrow ((r6_scmfsa7b (k1_scmfsa_9 \\
& X2 X3) X1 X0) \wedge (r5_scmfsa7b (k1_scmfsa_9 X2 X3) X1 X0))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
& X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\
& X0 k5_numbers)))))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\
& X1 (u1_struct_0 k1_scmfsa_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\
& X1 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge (v1_partfun1 X1 (u1_struct_0 \\
& k1_scmfsa_2)))))) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge ((\neg v1_scmfsa_m \\
& X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2)))) \Rightarrow (\forall X3. \\
& ((\neg v1_xboole_0 X3) \wedge ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 k5_numbers) \wedge \\
& ((v5_relat_1 X3 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X3) \wedge \\
& ((v1_finset_1 X3) \wedge ((v1_afinsq_1 X3) \wedge (v7_amistd_1 X3 np_3 k1_scmfsa_2)))))))))) \Rightarrow \\
& (r1_scmfsa9a X0 X1 X2 X3)))
\end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
& X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\
& X0 k5_numbers)))))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\
& X1 (u1_struct_0 k1_scmfsa_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\
& X1 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge (v1_partfun1 X1 (u1_struct_0 \\
& k1_scmfsa_2)))))) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge ((\neg v1_scmfsa_m \\
& X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2)))) \Rightarrow (\forall X3. \\
& ((\neg v1_xboole_0 X3) \wedge ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 k5_numbers) \wedge \\
& ((v5_relat_1 X3 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X3) \wedge \\
& ((v1_finset_1 X3) \wedge ((v1_afinsq_1 X3) \wedge (v7_amistd_1 X3 np_3 k1_scmfsa_2)))))))))) \Rightarrow \\
& ((r2_scmfsa9a X0 X1 X2 X3) \Rightarrow ((r6_scmfsa7b (k1_scmfsa_9 X2 X3) X1 \\
& X0) \wedge (r5_scmfsa7b (k1_scmfsa_9 X2 X3) X1 X0))))))
\end{aligned}$$