

t9_sfmast3

(TMEn18o4mmRZcMs7WgQb4NF8yoAVYX6qM3d)

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Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. 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 $v1_funct_1 : \iota \Rightarrow o$ 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 $r4_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_scmfsa8b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_scmfsa8b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_scmfsa8b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
 & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
 & (\forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
 & (\neg(X0 \neq X1) \wedge (r3_scmfsa7b (k8_scmfsa_2 X1 X2) X0))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v4_relat_1 \\
 & X0 k5_numbers) \wedge ((v5_relat_1 X0 (u1_compos_1 k1_scmfsa_2)) \wedge \\
 & (v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow (\\
 & \forall X1.((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 \\
 & X1 k5_numbers) \wedge ((v5_relat_1 X1 (u1_compos_1 k1_scmfsa_2)) \wedge \\
 & (v1_funct_1 X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow (\\
 & \forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
 & (\forall X3.((v1_ami_2 X3) \wedge (m1_subset_1 X3 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
 & (\neg(\neg r4_scmfsa7b X0 X3) \wedge ((\neg r4_scmfsa7b X1 X3) \wedge (\neg(\neg r4_scmfsa7b \\
 & (k1_scmfsa8b X2 X0 X1) X3) \wedge (\neg r4_scmfsa7b (k2_scmfsa8b X2 X0 X1) \\
 & X3))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v4_relat_1 \\
& X0 \ k5_numbers) \wedge ((v5_relat_1 X0 \ (u1_compos_1 \ k1_scmfsa_2)) \wedge \\
& (v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow (\\
& \forall X1.(m1_subset_1 X1 \ (u1_compos_1 \ k1_scmfsa_2)) \Rightarrow (\forall X2. \\
& ((v1_ami_2 X2) \wedge (m1_subset_1 X2 \ (u1_struct_0 \ k1_scmfsa_2))) \Rightarrow \\
& (\neg(\neg r3_scmfsa7b X1 X2) \wedge ((\neg r4_scmfsa7b X0 X2) \wedge (r4_scmfsa7b (k4_scmfsa6a \\
& X1 X0) X2))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((v1_ami_2 X0) \wedge (m1_subset_1 X0 \ (u1_struct_0 \\
& k1_scmfsa_2))) \wedge ((v1_ami_2 X1) \wedge (m1_subset_1 X1 \ (u1_struct_0 \\
& k1_scmfsa_2)))) \Rightarrow (m1_subset_1 (k8_scmfsa_2 X0 X1) \ (u1_compos_1 \\
& k1_scmfsa_2))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((v1_ami_2 X0) \wedge (m1_subset_1 \\
& X0 \ (u1_struct_0 \ k1_scmfsa_2))) \wedge (((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 \\
& X1) \wedge ((v4_relat_1 X1 \ k5_numbers) \wedge ((v5_relat_1 X1 \ (u1_compos_1 \\
& k1_scmfsa_2)) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 \\
& X1)))))) \wedge ((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 \\
& X2 \ k5_numbers) \wedge ((v5_relat_1 X2 \ (u1_compos_1 \ k1_scmfsa_2)) \wedge \\
& (v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 X2))))))))) \Rightarrow \\
& ((\neg v1_xboole_0 (k2_scmfsa8b X0 X1 X2)) \wedge ((v1_relat_1 (k2_scmfsa8b \\
& X0 X1 X2)) \wedge ((v4_relat_1 (k2_scmfsa8b X0 X1 X2) \ k5_numbers) \wedge ((v5_relat_1 \\
& (k2_scmfsa8b X0 X1 X2) \ (u1_compos_1 \ k1_scmfsa_2)) \wedge ((v1_funct_1 \\
& (k2_scmfsa8b X0 X1 X2)) \wedge ((v1_finset_1 (k2_scmfsa8b X0 X1 X2)) \wedge \\
& (v1_afinsq_1 (k2_scmfsa8b X0 X1 X2)))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((v1_ami_2 X0) \wedge (m1_subset_1 X0 \ (u1_struct_0 \ k1_scmfsa_2))) \Rightarrow \\
& (\forall X1. ((v1_ami_2 X1) \wedge (m1_subset_1 X1 \ (u1_struct_0 \ k1_scmfsa_2))) \Rightarrow \\
& (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 \\
& X2 \ k5_numbers) \wedge ((v5_relat_1 X2 \ (u1_compos_1 \ k1_scmfsa_2)) \wedge \\
& (v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 X2)))))) \Rightarrow (\\
& \forall X3. ((\neg v1_xboole_0 X3) \wedge ((v1_relat_1 X3) \wedge ((v4_relat_1 \\
& X3 \ k5_numbers) \wedge ((v5_relat_1 X3 \ (u1_compos_1 \ k1_scmfsa_2)) \wedge \\
& (v1_funct_1 X3) \wedge ((v1_finset_1 X3) \wedge (v1_afinsq_1 X3)))))) \Rightarrow (\\
& k5_scmfsa8b X0 X1 X2 X3 = k4_scmfsa6a (k8_scmfsa_2 X0 X1) (k2_scmfsa8b \\
& X0 X2 X3))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X3.((v1_relat_1 X3) \wedge ((v4_relat_1 X3 k5_numbers) \wedge ((\\ & v5_relat_1 X3 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X3) \wedge (\\ & (\neg v1_xboole_0 X3) \wedge ((v1_finset_1 X3) \wedge (v1_afinsq_1 X3)))))) \Rightarrow \\ & (\forall X4.((v1_relat_1 X4) \wedge ((v4_relat_1 X4 k5_numbers) \wedge ((\\ & v5_relat_1 X4 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X4) \wedge (\\ & (\neg v1_xboole_0 X4) \wedge ((v1_finset_1 X4) \wedge (v1_afinsq_1 X4)))))) \Rightarrow \\ & (\neg(X0 \neq X1) \wedge ((\neg r4_scmfsa7b X3 X0) \wedge ((\neg r4_scmfsa7b X4 X0) \wedge (r4_scmfsa7b \\ & (k5_scmfsa8b X1 X2 X3 X4) X0)))))) \end{aligned}$$