

t29_scmfsa6a

(TMcD1vMZHshAQUwEVGUEcZ78b6vVn8DhR4A)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ 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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $k3_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $k11_compos_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Let $np_3 : \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
 & X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 \\
 & X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow (\forall X1.(\\
 & (v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\
 & (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X1) \wedge ((v1_funct_1 \\
 & X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow (\forall X2.(\\
 & (v1_relat_1 X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 \\
 & (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X2) \wedge ((v1_funct_1 \\
 & X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 X2)))))) \Rightarrow (k3_scmfsa6a \\
 & (k3_scmfsa6a X0 X1) X2 = k3_scmfsa6a X0 (k3_scmfsa6a X1 X2)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((l1_compos_1 X0) \wedge (m1_subset_1 X1 (u1_compos_1 \\
 & X0))) \Rightarrow ((\neg v1_xboole_0 (k11_compos_1 X0 X1)) \wedge ((v1_relat_1 (k11_compos_1 \\
 & X0 X1)) \wedge ((v4_relat_1 (k11_compos_1 X0 X1) k5_numbers) \wedge ((v5_relat_1 \\
 & (k11_compos_1 X0 X1) (u1_compos_1 X0)) \wedge ((v1_funct_1 (k11_compos_1 \\
 & X0 X1)) \wedge ((v1_finset_1 (k11_compos_1 X0 X1)) \wedge (v1_afinsq_1 (k11_compos_1 \\
 & X0 X1))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. (l1_extpro_1 X1 X0) \Rightarrow ((l1_memstr_0 X1 X0) \wedge \\
 & (l1_compos_1 X1))
 \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\
& ((v5_relat_1 X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X0) \wedge \\
& ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \wedge \\
& ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\
& (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X1) \wedge ((v1_funct_1 \\
& X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow ((v1_relat_1 \\
& (k3_scmfsa6a X0 X1)) \wedge ((v4_relat_1 (k3_scmfsa6a X0 X1) k5_numbers) \wedge \\
& ((v5_relat_1 (k3_scmfsa6a X0 X1) (u1_compos_1 k1_scmfsa_2)) \wedge \\
& ((\neg v1_xboole_0 (k3_scmfsa6a X0 X1)) \wedge ((v1_funct_1 (k3_scmfsa6a \\
& X0 X1)) \wedge ((v1_finset_1 (k3_scmfsa6a X0 X1)) \wedge (v1_afinsq_1 (k3_scmfsa6a \\
& X0 X1)))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$(v1_extpro_1 k1_scmfsa_2 np_3) \wedge (l1_extpro_1 k1_scmfsa_2 np_3) \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2)) \Rightarrow (\forall X1. \\
& ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\
& (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X1) \wedge ((v1_funct_1 \\
& X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow (k4_scmfsa6a \\
& X0 X1 = k3_scmfsa6a (k11_compos_1 k1_scmfsa_2 X0) X1))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0. (m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2)) \Rightarrow (\forall X1. \\
& ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\
& (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X1) \wedge ((v1_funct_1 \\
& X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow (\forall X2. (\\
& (v1_relat_1 X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 \\
& (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X2) \wedge ((v1_funct_1 \\
& X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 X2)))))) \Rightarrow (k3_scmfsa6a \\
& (k4_scmfsa6a X0 X1) X2 = k4_scmfsa6a X0 (k3_scmfsa6a X1 X2)))
\end{aligned}$$