

t33_scmfsa8b

(TMd1DEwwsHYxiWRKsUNZBLqYoQMwsFzhEDX)

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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 $r8_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_m : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa6b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v2_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((v1_relat_1 \\ & X1) \wedge ((v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 X0)))) \wedge \\ & ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 \\ & X2 X0)))))) \Rightarrow ((r8_pboole X0 X1 X2) \Leftrightarrow (X1 = X2)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \tag{2}$$

Assume the following.

$$\begin{aligned} & (\neg v2_struct_0 k1_scmfsa_2) \wedge ((v2_memstr_0 k1_scmfsa_2 np_3) \wedge \\ & (v1_extpro_1 k1_scmfsa_2 np_3)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. (l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. (l1_memstr_0 X1 X0) \Rightarrow (l2_struct_0 X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1 X1 X0)\Rightarrow((l1_memstr_0 X1 X0)\wedge (l1_compos_1 X1)) \quad (6)$$

Assume the following.

$$(v1_extpro_1 k1_scmfsa_2 np_3)\wedge(l1_extpro_1 k1_scmfsa_2 np_3) \quad (7)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmfsa_2))\wedge((\neg v1_xboole_0 X0)\wedge((v1_funct_1 \\ & X0)\wedge((v1_finset_1 X0)\wedge(v1_afinsq_1 X0))))))\Rightarrow(\forall X1.(\\ & (v1_relat_1 X1)\wedge((v4_relat_1 X1 (u1_struct_0 k1_scmfsa_2))\wedge \\ & ((v1_funct_1 X1)\wedge((v5_funct_1 X1 (k2_memstr_0 np_3 k1_scmfsa_2))\wedge \\ & (v1_partfun1 X1 (u1_struct_0 k1_scmfsa_2))))))\Rightarrow(\forall X2. \\ & ((v1_relat_1 X2)\wedge((v4_relat_1 X2 k5_numbers)\wedge((v5_relat_1 X2 \\ & (u1_compos_1 k1_scmfsa_2))\wedge((v1_funct_1 X2)\wedge(v1_partfun1 X2 \\ & k5_numbers))))))\Rightarrow(k1_scmfsa6b X0 X1 X2 = k6_extpro_1 np_3 k1_scmfsa_2 \\ & (k1_funct_4 X2 X0) (k1_scmfsa_m X1))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\ & X0 k5_numbers)))))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\ & X1 (u1_struct_0 k1_scmfsa_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\ & X1 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge (v1_partfun1 X1 (u1_struct_0 \\ & k1_scmfsa_2)))))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 \\ & X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\ & k1_scmfsa_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 \\ & X2)))))) \Rightarrow (r8_pboole (u1_struct_0 k1_scmfsa_2) (k6_extpro_1 \\ & np_3 k1_scmfsa_2 (k1_funct_4 X0 X2) (k1_scmfsa_m X1)) (k1_scmfsa6b \\ & X2 X1 X0)))) \end{aligned}$$