

t4_msualg_6

(TMUqmgghGreg5J3yuLVV274auCdodqoYff2X)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_msualg_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_msualg_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_msualg_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l5_struct_0 : \iota \Rightarrow o$ be given. Let $m2_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 X0))) \Rightarrow (\forall X1.(l3_msualg_1 X1 X0) \Rightarrow (r1_msualg_3 X0 X1 X1 (k2_msualg_3 (u1_struct_0 X0) (u3_msualg_1 X0 X1)))) \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. ((l1_struct_0 X0) \wedge (l2_msualg_1 X1 X0)) \Rightarrow ((v1_relat_1 (u3_msualg_1 X0 X1)) \wedge ((v4_relat_1 (u3_msualg_1 X0 X1) (u1_struct_0 X0)) \wedge ((v1_funct_1 (u3_msualg_1 X0 X1)) \wedge (v1_partfun1 (u3_msualg_1 X0 X1) (u1_struct_0 X0)))))) \tag{2}$$

Assume the following.

$$\forall X0.(l5_struct_0 X0) \Rightarrow (l1_struct_0 X0) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1.(l3_msualg_1 X1 X0) \Rightarrow (l2_msualg_1 X1 X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l1_msualg_1 X0) \Rightarrow (l5_struct_0 X0) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 X0)\wedge(v1_funct_1 X1)\wedge(v1_partfun1 X1 X0)))\Rightarrow(m2_pboole (k2_msualg_3 X0 X1) X0 X1 X1) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge(l1_msualg_1 X0)))\Rightarrow(\forall X1.(l3_msualg_1 X1 X0)\Rightarrow(\forall X2.(m2_pboole X2 (u1_struct_0 X0) (u3_msualg_1 X0 X1) (u3_msualg_1 X0 X1))\Rightarrow((m1_msualg_6 X2 X0 X1)\Leftrightarrow(r1_msualg_3 X0 X1 X1 X2)))) \quad (7)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge(l1_msualg_1 X0)))\Rightarrow(\forall X1.(l3_msualg_1 X1 X0)\Rightarrow(m1_msualg_6 (k2_msualg_3 (u1_struct_0 X0) (u3_msualg_1 X0 X1)) X0 X1))$$