

t16_scmfsa_2 (TM-
SXC71tdbCJHKTzUNL8Wem1zwKQqXSjuGr)

October 27, 2020

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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_12 : \iota$ be given. Let $k2_scmfsa_i : \iota$ be given. Let $v1_compos_0 : \iota \Rightarrow o$ be given. Let $v2_compos_0 : \iota \Rightarrow o$ be given. Let $v3_compos_0 : \iota \Rightarrow o$ be given. Let $v5_compos_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_card_3 : \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k5_scmfsa_1 : \iota$ be given. Let $np_3 : \iota$ be given. Let $k4_scmfsa_1 : \iota$ be given. Let $k1_scmfsa_1 : \iota$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_scmfsa_1 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_scmfsa_i) \Rightarrow (r1_xxreal_0 (k2_compos_0 k2_scmfsa_i X0) np_12) \quad (1)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& \forall X6.((m1_subset_1 X2 X1)\wedge(((v1_compos_0 X3)\wedge((v2_compos_0 \\
& X3)\wedge((v3_compos_0 X3)\wedge(v5_compos_0 X3))))\wedge(((v1_funct_1 X4)\wedge \\
& ((v1_funct_2 X4 X1 X0)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X1 X0))))\wedge(((v1_relat_1 X5)\wedge((v4_relat_1 X5 X0)\wedge((v1_funct_1 \\
& X5)\wedge(v1_partfun1 X5 X0))))\wedge((v1_funct_1 X6)\wedge((v1_funct_2 X6 \\
& X3 (k1_funct_2 (k4_card_3 (k3_relat_1 X4 X5)) (k4_card_3 (k3_relat_1 \\
& X4 X5))))\wedge(m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 X3 (k1_funct_2 \\
& (k4_card_3 (k3_relat_1 X4 X5)) (k4_card_3 (k3_relat_1 X4 X5)))))))))\Rightarrow \\
& (\forall X7.\forall X8.\forall X9.\forall X10.\forall X11.\forall X12. \\
& \forall X13.(g1_extpro_1 X0 X1 X2 X3 X4 X5 X6 = g1_extpro_1 X7 X8 X9 \\
& X10 X11 X12 X13)\Rightarrow((X0 = X7)\wedge((X1 = X8)\wedge((X2 = X9)\wedge((X3 = X10)\wedge((X4 = \\
& X11)\wedge((X5 = X12)\wedge(X6 = X13))))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$(\neg v1_xboole_0 k2_scmfsa_i)\wedge(v5_compos_0 k2_scmfsa_i) \tag{3}$$

Assume the following.

$$(\neg v1_xboole_0 k2_scmfsa_i)\wedge(v3_compos_0 k2_scmfsa_i) \tag{4}$$

Assume the following.

$$(\neg v1_xboole_0 k2_scmfsa_i)\wedge(v2_compos_0 k2_scmfsa_i) \tag{5}$$

Assume the following.

$$(\neg v1_xboole_0 k2_scmfsa_i)\wedge(v1_compos_0 k2_scmfsa_i) \tag{6}$$

Assume the following.

$$\begin{aligned}
& (v1_relat_1 k5_scmfsa_1)\wedge((v4_relat_1 k5_scmfsa_1 np_3)\wedge(\\
& (v1_funct_1 k5_scmfsa_1)\wedge(v1_partfun1 k5_scmfsa_1 np_3)))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& (v1_funct_1 k4_scmfsa_1)\wedge((v1_funct_2 k4_scmfsa_1 k1_scmfsa_1 \\
& np_3)\wedge(m1_subset_1 k4_scmfsa_1 (k1_zfmisc_1 (k2_zfmisc_1 k1_scmfsa_1 \\
& np_3))))
\end{aligned} \tag{8}$$

Assume the following.

$$(v1_extpro_1 k1_scmfsa_2 np_3)\wedge(l1_extpro_1 k1_scmfsa_2 np_3) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.m1_subset_1 (k1_funct_7 X0 X1) X1 \tag{10}$$

Assume the following.

$$\begin{aligned}
& (v1_funct_1 \ k12_scmfsa_1) \wedge ((v1_funct_2 \ k12_scmfsa_1 \ k2_scmfsa_i \\
& \quad (k1_funct_2 \ (k4_card_3 \ (k3_relat_1 \ k4_scmfsa_1 \ k5_scmfsa_1)) \\
& \quad (k4_card_3 \ (k3_relat_1 \ k4_scmfsa_1 \ k5_scmfsa_1)))) \wedge (m1_subset_1 \\
& \quad k12_scmfsa_1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k2_scmfsa_i \ (k1_funct_2 \\
& \quad (k4_card_3 \ (k3_relat_1 \ k4_scmfsa_1 \ k5_scmfsa_1)) \ (k4_card_3 \\
& \quad (k3_relat_1 \ k4_scmfsa_1 \ k5_scmfsa_1))))))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& k1_scmfsa_2 = g1_extpro_1 \ np_3 \ k1_scmfsa_1 \ (k1_funct_7 \ k5_numbers \\
& \quad k1_scmfsa_1) \ k2_scmfsa_i \ k4_scmfsa_1 \ k5_scmfsa_1 \ k12_scmfsa_1
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (l1_extpro_1 \ X1 \ X0) \Rightarrow ((v1_extpro_1 \ X1 \ X0) \Rightarrow \\
& \quad (X1 = g1_extpro_1 \ X0 \ (u1_struct_0 \ X1) \ (u2_struct_0 \ X1) \ (u1_compos_1 \\
& \quad X1) \ (u1_memstr_0 \ X0 \ X1) \ (u2_memstr_0 \ X0 \ X1) \ (u1_extpro_1 \ X0 \ X1)))
\end{aligned} \tag{13}$$

Theorem 1

$$\begin{aligned}
& \forall X0. (m1_subset_1 \ X0 \ (u1_compos_1 \ k1_scmfsa_2)) \Rightarrow (r1_xxreal_0 \\
& \quad (k2_compos_0 \ (u1_compos_1 \ k1_scmfsa_2) \ X0) \ np_12)
\end{aligned}$$