

t40_scmpds_2

(TMSaESkhyXaBre8xngSk1FtZpiyPhJjsbvh)

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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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_scmpds_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ 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 $np_2 : \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_scmpds_i : \iota$ be given. Let $k1_ami_2 : \iota$ be given. Let $k6_scmpds_1 : \iota$ be given. Let $k3_ami_2 : \iota$ be given. Let $k4_ami_2 : \iota$ 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 $k5_numbers : \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ 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.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& \forall X6.((m1_subset_1 X2 X1)\wedge(((v1_compos_0 X3)\wedge((v2_compos_0 \\
& X3)\wedge((v3_compos_0 X3)\wedge(v5_compos_0 X3))))\wedge(((v1_funct_1 X4)\wedge \\
& ((v1_funct_2 X4 X1 X0)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X1 X0))))\wedge(((v1_relat_1 X5)\wedge((v4_relat_1 X5 X0)\wedge((v1_funct_1 \\
& X5)\wedge(v1_partfun1 X5 X0))))\wedge((v1_funct_1 X6)\wedge((v1_funct_2 X6 \\
& X3 (k1_funct_2 (k4_card_3 (k3_relat_1 X4 X5)) (k4_card_3 (k3_relat_1 \\
& X4 X5))))\wedge(m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 X3 (k1_funct_2 \\
& (k4_card_3 (k3_relat_1 X4 X5)) (k4_card_3 (k3_relat_1 X4 X5))))))))))\Rightarrow \\
& (\forall X7.\forall X8.\forall X9.\forall X10.\forall X11.\forall X12. \\
& \forall X13.(g1_extpro_1 X0 X1 X2 X3 X4 X5 X6 = g1_extpro_1 X7 X8 X9 \\
& X10 X11 X12 X13)\Rightarrow((X0 = X7)\wedge((X1 = X8)\wedge((X2 = X9)\wedge((X3 = X10)\wedge((X4 = \\
& X11)\wedge((X5 = X12)\wedge(X6 = X13))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$v5_compos_0 k1_scmpds_i \tag{4}$$

Assume the following.

$$v3_compos_0 k1_scmpds_i \tag{5}$$

Assume the following.

$$v2_compos_0 k1_scmpds_i \tag{6}$$

Assume the following.

$$v1_compos_0 k1_scmpds_i \tag{7}$$

Assume the following.

$$\neg v1_xboole_0 k1_ami_2 \tag{8}$$

Assume the following.

$$\begin{aligned}
& (v1_funct_1 k6_scmpds_1)\wedge((v1_funct_2 k6_scmpds_1 k1_scmpds_i \\
& (k1_funct_2 (k4_card_3 (k3_relat_1 k3_ami_2 k4_ami_2)) (k4_card_3 \\
& (k3_relat_1 k3_ami_2 k4_ami_2))))\wedge(m1_subset_1 k6_scmpds_1 \\
& (k1_zfmisc_1 (k2_zfmisc_1 k1_scmpds_i (k1_funct_2 (k4_card_3 \\
& (k3_relat_1 k3_ami_2 k4_ami_2)) (k4_card_3 (k3_relat_1 k3_ami_2 \\
& k4_ami_2))))))
\end{aligned} \tag{9}$$

Assume the following.

$$(v1_relat_1 k4_ami_2)\wedge((v4_relat_1 k4_ami_2 np_2)\wedge((v1_funct_1 k4_ami_2)\wedge(v1_partfun1 k4_ami_2 np_2))) \tag{10}$$

Assume the following.

$$\begin{aligned}
& (v1_funct_1 k3_ami_2)\wedge((v1_funct_2 k3_ami_2 k1_ami_2 np_2)\wedge \\
& (m1_subset_1 k3_ami_2 (k1_zfmisc_1 (k2_zfmisc_1 k1_ami_2 np_2))))
\end{aligned} \tag{11}$$

Assume the following.

$$(v1_extpro_1\ k1_scmpds_2\ np_2) \wedge (l1_extpro_1\ k1_scmpds_2\ np_2) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. m1_subset_1\ (k1_funct_7\ X0\ X1)\ X1 \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1\ X1) \wedge (v4_relat_1\ X1\ X0)) \Rightarrow (v1_partfun1\ X1\ X0) \Leftrightarrow (k1_relset_1\ X0\ X1 = X0) \quad (14)$$

Assume the following.

$$k1_scmpds_2 = g1_extpro_1\ np_2\ k1_ami_2\ (k1_funct_7\ k5_numbers\ k1_ami_2)\ k1_scmpds_i\ k3_ami_2\ k4_ami_2\ k6_scmpds_1 \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. (l1_extpro_1\ X1\ X0) \Rightarrow ((v1_extpro_1\ X1\ X0) \Rightarrow (X1 = g1_extpro_1\ X0\ (u1_struct_0\ X1)\ (u2_struct_0\ X1)\ (u1_compos_1\ X1)\ (u1_memstr_0\ X0\ X1)\ (u2_memstr_0\ X0\ X1)\ (u1_extpro_1\ X0\ X1))) \quad (16)$$

Theorem 1

$$\forall X0. ((v1_relat_1\ X0) \wedge ((v4_relat_1\ X0\ (u1_struct_0\ k1_scmpds_2)) \wedge ((v1_funct_1\ X0) \wedge ((v5_funct_1\ X0\ (k2_memstr_0\ np_2\ k1_scmpds_2)) \wedge (v1_partfun1\ X0\ (u1_struct_0\ k1_scmpds_2)))))) \Rightarrow (\forall X1. ((v1_ami_2\ X1) \wedge (m1_subset_1\ X1\ (u1_struct_0\ k1_scmpds_2))) \Rightarrow (X1 \in k9_xtuple_0\ X0))$$