

t21_scmfsa_2
(TMR4Gg8DipeYSaogoF3jH45kdxSKZydJfbS)

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Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $k2_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k9_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_4 : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_compos_0 : \iota \Rightarrow o$ be given. Let $k4_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k3_scm_inst : \iota$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ 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 $k9_ami_2 : \iota$ be given. Let $k3_ami_2 : \iota$ be given. Let $k4_ami_2 : \iota$ be given. Let $np_2 : \iota$ be given. Let $k1_ami_2 : \iota$ be given. Let $k2_ami_2 : \iota$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_3 : \iota$ be given. Let $k1_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_ami_3 : \iota$ be given. Let $k5_ami_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ 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.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v1_xboole_0 X0) \wedge (v1_compos_0 X0)) \wedge (m1_subset_1 X1 X0)) \Rightarrow (k2_compos_0 X0 X1 = k4_xtuple_0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k1_xtuple_0 (k4_tarski X0 X1) = X0 \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& \forall X6.((m1_subset_1 X2 X1)\wedge(((v1_compos_0 X3)\wedge((v2_compos_0 \\
& X3)\wedge((v3_compos_0 X3)\wedge(v5_compos_0 X3))))\wedge(((v1_funct_1 X4)\wedge \\
& ((v1_funct_2 X4 X1 X0)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X1 X0))))\wedge(((v1_relat_1 X5)\wedge((v4_relat_1 X5 X0)\wedge((v1_funct_1 \\
& X5)\wedge(v1_partfun1 X5 X0))))\wedge((v1_funct_1 X6)\wedge((v1_funct_2 X6 \\
& X3 (k1_funct_2 (k4_card_3 (k3_relat_1 X4 X5)) (k4_card_3 (k3_relat_1 \\
& X4 X5))))\wedge(m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 X3 (k1_funct_2 \\
& (k4_card_3 (k3_relat_1 X4 X5)) (k4_card_3 (k3_relat_1 X4 X5))))))))))\Rightarrow \\
& (\forall X7.\forall X8.\forall X9.\forall X10.\forall X11.\forall X12. \\
& \forall X13.(g1_extpro_1 X0 X1 X2 X3 X4 X5 X6 = g1_extpro_1 X7 X8 X9 \\
& X10 X11 X12 X13)\Rightarrow((X0 = X7)\wedge((X1 = X8)\wedge((X2 = X9)\wedge((X3 = X10)\wedge((X4 = \\
& X11)\wedge((X5 = X12)\wedge(X6 = X13))))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$(\neg v1_xboole_0 k3_scm_inst)\wedge(v5_compos_0 k3_scm_inst) \tag{5}$$

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$$(\neg v1_xboole_0 k3_scm_inst)\wedge(v3_compos_0 k3_scm_inst) \tag{6}$$

Assume the following.

$$(\neg v1_xboole_0 k3_scm_inst)\wedge(v2_compos_0 k3_scm_inst) \tag{7}$$

Assume the following.

$$(\neg v1_xboole_0 k3_scm_inst)\wedge(v1_compos_0 k3_scm_inst) \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_compos_1 X0)\Rightarrow((v1_compos_0 (u1_compos_1 X0))\wedge \\
& ((v2_compos_0 (u1_compos_1 X0))\wedge((v3_compos_0 (u1_compos_1 \\
& X0))\wedge(v5_compos_0 (u1_compos_1 X0))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1 X1 X0)\Rightarrow((l1_memstr_0 X1 X0)\wedge \\
(l1_compos_1 X1)) \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(((v1_ami_2 X0)\wedge(m1_subset_1 X0 (u1_struct_0 \\
& k1_scmfsa_2)))\wedge((v1_ami_2 X1)\wedge(m1_subset_1 X1 (u1_struct_0 \\
& k1_scmfsa_2))))\Rightarrow(m1_subset_1 (k9_scmfsa_2 X0 X1) (u1_compos_1 \\
& k1_scmfsa_2))
\end{aligned} \tag{11}$$

Assume the following.

$$(v1_funct_1 k9_ami_2) \wedge ((v1_funct_2 k9_ami_2 k3_scm_inst (k1_funct_2 (k4_card_3 (k3_relat_1 k3_ami_2 k4_ami_2)) (k4_card_3 (k3_relat_1 k3_ami_2 k4_ami_2)))) \wedge (m1_subset_1 k9_ami_2 (k1_zfmisc_1 (k2_zfmisc_1 k3_scm_inst (k1_funct_2 (k4_card_3 (k3_relat_1 k3_ami_2 k4_ami_2)) (k4_card_3 (k3_relat_1 k3_ami_2 k4_ami_2))))))) \quad (12)$$

Assume the following.

$$(v1_relat_1 k4_ami_2) \wedge ((v4_relat_1 k4_ami_2 np_2) \wedge ((v1_funct_1 k4_ami_2) \wedge (v1_partfun1 k4_ami_2 np_2))) \quad (13)$$

Assume the following.

$$(v1_funct_1 k3_ami_2) \wedge ((v1_funct_2 k3_ami_2 k1_ami_2 np_2) \wedge (m1_subset_1 k3_ami_2 (k1_zfmisc_1 (k2_zfmisc_1 k1_ami_2 np_2)))) \quad (14)$$

Assume the following.

$$m1_subset_1 k2_ami_2 (k1_zfmisc_1 k1_ami_2) \quad (15)$$

Assume the following.

$$(v1_extpro_1 k1_scmfsa_2 np_3) \wedge (l1_extpro_1 k1_scmfsa_2 np_3) \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. m1_subset_1 (k1_funct_7 X0 X1) X1 \quad (17)$$

Assume the following.

$$(v1_extpro_1 k1_ami_3 np_2) \wedge (l1_extpro_1 k1_ami_3 np_2) \quad (18)$$

Assume the following.

$$\forall X0. k4_xtuple_0 X0 = k1_xtuple_0 (k1_xtuple_0 X0) \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_ami_3))) \Rightarrow \\ & (\forall X1. ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_ami_3))) \Rightarrow \\ & (k5_ami_3 X0 X1 = k3_xtuple_0 np_4 k1_xboole_0 (k10_finseq_1 X0 X1))) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0. \forall X1. k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k3_xtuple_0 X0 X1 X2 = k4_tarSKI (k4_tarSKI X0 X1) X2 \quad (22)$$

Assume the following.

$$k1_ami_3 = g1_extpro_1 np_2 k1_ami_2 (k1_funct_7 k5_numbers k1_ami_2 k3_scm_inst k3_ami_2 k4_ami_2 k9_ami_2) \quad (23)$$

Assume the following.

$$\forall X0.(v1_ami_2 X0) \Leftrightarrow (X0 \in k2_ami_2) \quad (24)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_compos_1 k1_scmfsa_2)) \Rightarrow ((X2 = \\ & k9_scmfsa_2 X0 X1) \Leftrightarrow (\exists X3.((v1_ami_2 X3) \wedge (m1_subset_1 X3 \\ & (u1_struct_0 k1_ami_3))) \wedge (\exists X4.((v1_ami_2 X4) \wedge (m1_subset_1 \\ & X4 (u1_struct_0 k1_ami_3)))) \wedge ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = k5_ami_3 \\ & X3 X4)))))))))) \end{aligned} \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.k2_tarSKI X0 X1 = k2_tarSKI X1 X0 \quad (26)$$

Assume the following.

$$\forall X0.(v5_compos_0 X0) \Rightarrow (\neg v1_xboole_0 X0) \quad (27)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(l1_extpro_1 X1 X0) \Rightarrow ((v1_extpro_1 X1 X0) \Rightarrow \\ & (X1 = g1_extpro_1 X0 (u1_struct_0 X1) (u2_struct_0 X1) (u1_compos_1 \\ & X1) (u1_memstr_0 X0 X1) (u2_memstr_0 X0 X1) (u1_extpro_1 X0 X1))) \end{aligned} \quad (28)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (k2_compos_0 (u1_compos_1 k1_scmfsa_2) (k9_scmfsa_2 X0 X1) = np_4)) \end{aligned}$$