

t27_scmpds_2 (TMM MAY- cFM4t4QDV8LzNoBFjssAowLmA5rZC)

October 27, 2020

Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos.1 : \iota \Rightarrow \iota$ be given. Let $k1_scmpds.2 : \iota$ be given. Let $k2_compos.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_ami.2 : \iota \Rightarrow o$ be given. Let $u1_struct.0 : \iota \Rightarrow \iota$ be given. Let $k4_scmpds.2 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc.1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole.0 : \iota \Rightarrow o$ be given. Let $m2_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_finseq.1 : \iota \Rightarrow \iota$ be given. Let $k5_finseq.1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole.0 : \iota$ be given. Let $k2_ami.2 : \iota$ be given. Let $k2_scm_inst : \iota$ be given. Let $k12_finseq.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k3_xtuple.0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_numbers : \iota$ be given. Let $np_14 : \iota$ be given. Let $k1_ami.2 : \iota$ be given. Let $k7_card.1 : \iota \Rightarrow \iota$ be given. Let $np_15 : \iota$ be given. Let $k3_scmpds.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $np_3 : \iota$ be given. Let $k11_finseq.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_4 : \iota$ be given. Let $np_5 : \iota$ be given. Let $np_6 : \iota$ be given. Let $np_7 : \iota$ be given. Let $np_8 : \iota$ be given. Let $k7_finseq.4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_9 : \iota$ be given. Let $np_10 : \iota$ be given. Let $np_11 : \iota$ be given. Let $np_12 : \iota$ be given. Let $np_13 : \iota$ 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 $k2_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $g1_extpro.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_scmpds.i : \iota$ 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 $u1_memstr.0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1)\Rightarrow((v1_xboole_0 X1)\vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\neg v1_xboole_0 np_1 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (4)$$

Assume the following.

$$\forall X0.k9_finseq_1 X0 = k5_finseq_1 X0 \quad (5)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (6)$$

Assume the following.

$$k2_ami_2 = k2_scm_inst \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow (k12_finseq_1 X0 X1 = k5_finseq_1 X1) \quad (8)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow (\neg(\neg X0 \in \\
& \quad k1_tarski (k3_xtuple_0 k6_numbers k1_xboole_0 k1_xboole_0)) \wedge \\
& \quad ((\neg X0 \in ReplSep (toset (\lambda X1 : \iota.m1_subset_1 X1 k4_numbers)) \\
& \quad (\lambda X1 : \iota.True) (\lambda X1 : \iota.k3_xtuple_0 np_14 k1_xboole_0 \\
& \quad (k9_finseq_1 X1))) \wedge ((\neg X0 \in ReplSep (toset (\lambda X1 : \iota.m2_subset_1 \\
& \quad X1 k1_ami_2 k2_ami_2)) (\lambda X1 : \iota.True) (\lambda X1 : \iota.k3_xtuple_0 \\
& \quad np_11 k1_xboole_0 (k12_finseq_1 k2_ami_2 X1))) \wedge ((\neg X0 \in ReplSep3 \\
& \quad (toset (\lambda X1 : \iota.m1_subset_1 X1 (k7_card_1 np_15))) (\lambda X1 : \\
& \quad \iota.toset (\lambda X2 : \iota.m2_subset_1 X2 k1_ami_2 k2_ami_2)) (\lambda X1 : \\
& \quad \iota.\lambda X2 : \iota.toset (\lambda X3 : \iota.m1_subset_1 X3 k4_numbers)) \\
& \quad (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.X1 \in k2_tarski np_2 np_3) \\
& \quad (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.k3_xtuple_0 X1 k1_xboole_0 \\
& \quad (k3_scmpds_1 X2 X3))) \wedge ((\neg X0 \in ReplSep4 (toset (\lambda X1 : \iota.m1_subset_1 \\
& \quad X1 (k7_card_1 np_15))) (\lambda X1 : \iota.toset (\lambda X2 : \iota.m2_subset_1 \\
& \quad X2 k1_ami_2 k2_ami_2)) (\lambda X1 : \iota.\lambda X2 : \iota.toset (\lambda X3 : \\
& \quad \iota.m1_subset_1 X3 k4_numbers)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \\
& \quad \iota.toset (\lambda X4 : \iota.m1_subset_1 X4 k4_numbers)) (\lambda X1 : \iota. \\
& \quad \lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.X1 \in k3_enumset1 np_4 np_5 \\
& \quad np_6 np_7 np_8) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \\
& \quad \iota.k3_xtuple_0 X1 k1_xboole_0 (k11_finseq_1 X2 X3 X4))) \wedge (\neg X0 \in \\
& \quad ReplSep5 (toset (\lambda X1 : \iota.m1_subset_1 X1 (k7_card_1 np_15))) \\
& \quad (\lambda X1 : \iota.toset (\lambda X2 : \iota.m2_subset_1 X2 k1_ami_2 k2_ami_2)) \\
& \quad (\lambda X1 : \iota.\lambda X2 : \iota.toset (\lambda X3 : \iota.m2_subset_1 X3 k1_ami_2 \\
& \quad k2_ami_2)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.toset (\lambda X4 : \\
& \quad \iota.m1_subset_1 X4 k4_numbers)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \\
& \quad \iota.\lambda X4 : \iota.toset (\lambda X5 : \iota.m1_subset_1 X5 k4_numbers)) \\
& \quad (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.\lambda X5 : \iota. \\
& \quad X1 \in k3_enumset1 np_9 np_10 np_11 np_12 np_13) (\lambda X1 : \iota. \\
& \quad \lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.\lambda X5 : \iota.k3_xtuple_0 \\
& \quad X1 k1_xboole_0 (k7_finseq_4 X2 X3 X4 X5)))))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow ((X0 \in \\
& \quad k1_tarski (k3_xtuple_0 k6_numbers k1_xboole_0 k1_xboole_0)) \Rightarrow \\
& \quad (k2_compos_0 (u1_compos_1 k1_scmpds_2) X0 = k6_numbers))
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow (\neg(X0 \in \\
& \text{ReplSep5} (tosest (\lambda X1 : \iota.m1_subset_1 X1 (k7_card_1 np_15)))) \\
& (\lambda X1 : \iota.tosest (\lambda X2 : \iota.m2_subset_1 X2 k1_ami_2 k2_ami_2)) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.tosest (\lambda X3 : \iota.m2_subset_1 X3 k1_ami_2 \\
& \quad k2_ami_2)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.tosest (\lambda X4 : \\
& \quad \iota.m1_subset_1 X4 k4_numbers)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \\
& \quad \iota.\lambda X4 : \iota.tosest (\lambda X5 : \iota.m1_subset_1 X5 k4_numbers)) \\
& \quad (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.\lambda X5 : \iota. \\
& \quad X1 \in k3_enumset1 np_9 np_10 np_11 np_12 np_13) (\lambda X1 : \iota. \\
& \quad \lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.\lambda X5 : \iota.k3_xtuple_0 \\
& X1 k1_xboole_0 (k7_finseq_4 X2 X3 X4 X5))) \wedge ((k2_compos_0 (u1_compos_1 \\
& k1_scmpds_2) X0 \neq np_9) \wedge ((k2_compos_0 (u1_compos_1 k1_scmpds_2) \\
& X0 \neq np_10) \wedge ((k2_compos_0 (u1_compos_1 k1_scmpds_2) X0 \neq np_11) \wedge \\
& ((k2_compos_0 (u1_compos_1 k1_scmpds_2) X0 \neq np_12) \wedge (k2_compos_0 \\
& (u1_compos_1 k1_scmpds_2) X0 \neq np_13))))))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow (\neg(X0 \in \\
& \text{ReplSep4} (tosest (\lambda X1 : \iota.m1_subset_1 X1 (k7_card_1 np_15)))) \\
& (\lambda X1 : \iota.tosest (\lambda X2 : \iota.m2_subset_1 X2 k1_ami_2 k2_ami_2)) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.tosest (\lambda X3 : \iota.m1_subset_1 X3 k4_numbers)) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.tosest (\lambda X4 : \iota.m1_subset_1 \\
& \quad X4 k4_numbers)) (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \\
& \quad \iota.X1 \in k3_enumset1 np_4 np_5 np_6 np_7 np_8) (\lambda X1 : \iota. \\
& \quad \lambda X2 : \iota.\lambda X3 : \iota.\lambda X4 : \iota.k3_xtuple_0 X1 k1_xboole_0 \\
& (k11_finseq_1 X2 X3 X4))) \wedge ((k2_compos_0 (u1_compos_1 k1_scmpds_2) \\
& X0 \neq np_4) \wedge ((k2_compos_0 (u1_compos_1 k1_scmpds_2) X0 \neq np_5) \wedge \\
& ((k2_compos_0 (u1_compos_1 k1_scmpds_2) X0 \neq np_6) \wedge ((k2_compos_0 \\
& (u1_compos_1 k1_scmpds_2) X0 \neq np_7) \wedge (k2_compos_0 (u1_compos_1 \\
& k1_scmpds_2) X0 \neq np_8))))))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow (\neg(X0 \in \\
& \text{ReplSep3} (tosest (\lambda X1 : \iota.m1_subset_1 X1 (k7_card_1 np_15)))) \\
& (\lambda X1 : \iota.tosest (\lambda X2 : \iota.m2_subset_1 X2 k1_ami_2 k2_ami_2)) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.tosest (\lambda X3 : \iota.m1_subset_1 X3 k4_numbers)) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.X1 \in k2_tarski np_2 np_3) \\
& (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota.k3_xtuple_0 X1 k1_xboole_0 \\
& (k3_scmpds_1 X2 X3))) \wedge ((k2_compos_0 (u1_compos_1 k1_scmpds_2) \\
& X0 \neq np_2) \wedge (k2_compos_0 (u1_compos_1 k1_scmpds_2) X0 \neq np_3))
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow ((X0 \in \\ & \text{ReplSep } (\text{toset } (\lambda X1 : \iota.m1_subset_1 X1 k4_numbers)) (\lambda X1 : \\ & \iota.True) (\lambda X1 : \iota.k3_xtuple_0 np_14 k1_xboole_0 (k9_finseq_1 \\ & X1))) \Rightarrow (k2_compos_0 (u1_compos_1 k1_scmpds_2) X0 = np_14)) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.((m1_subset_1 X2 X1) \wedge (((v1_compos_0 X3) \wedge ((v2_compos_0 \\ & X3) \wedge ((v3_compos_0 X3) \wedge (v5_compos_0 X3)))) \wedge (((v1_funct_1 X4) \wedge \\ & ((v1_funct_2 X4 X1 X0) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X1 X0)))))) \wedge (((v1_relat_1 X5) \wedge ((v4_relat_1 X5 X0) \wedge ((v1_funct_1 \\ & X5) \wedge (v1_partfun1 X5 X0)))) \wedge ((v1_funct_1 X6) \wedge ((v1_funct_2 X6 \\ & X3 (k1_funct_2 (k4_card_3 (k3_relat_1 X4 X5)) (k4_card_3 (k3_relat_1 \\ & X4 X5)))) \wedge (m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 X3 (k1_funct_2 \\ & (k4_card_3 (k3_relat_1 X4 X5)) (k4_card_3 (k3_relat_1 X4 X5)))))))))) \Rightarrow \\ & (\forall X7.\forall X8.\forall X9.\forall X10.\forall X11.\forall X12. \\ & \forall X13.(g1_extpro_1 X0 X1 X2 X3 X4 X5 X6 = g1_extpro_1 X7 X8 X9 \\ & X10 X11 X12 X13) \Rightarrow ((X0 = X7) \wedge ((X1 = X8) \wedge ((X2 = X9) \wedge ((X3 = X10) \wedge ((X4 = \\ & X11) \wedge ((X5 = X12) \wedge (X6 = X13)))))))))) \end{aligned} \quad (15)$$

Assume the following.

$$v5_compos_0 k1_scmpds_i \quad (16)$$

Assume the following.

$$v3_compos_0 k1_scmpds_i \quad (17)$$

Assume the following.

$$v2_compos_0 k1_scmpds_i \quad (18)$$

Assume the following.

$$v1_compos_0 k1_scmpds_i \quad (19)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (20)$$

Assume the following.

$$\neg v1_xboole_0 k2_scm_inst \quad (21)$$

Assume the following.

$$\neg v1_xboole_0 k1_ami_2 \quad (22)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k6_scmpds_1) \wedge ((v1_funct_2 k6_scmpds_1 k1_scmpds_i \\ & (k1_funct_2 (k4_card_3 (k3_relat_1 k3_ami_2 k4_ami_2)) (k4_card_3 \\ & (k3_relat_1 k3_ami_2 k4_ami_2)))) \wedge (m1_subset_1 k6_scmpds_1 \\ & (k1_zfmisc_1 (k2_zfmisc_1 k1_scmpds_i (k1_funct_2 (k4_card_3 \\ & (k3_relat_1 k3_ami_2 k4_ami_2)) (k4_card_3 (k3_relat_1 k3_ami_2 \\ & k4_ami_2)))))) \end{aligned} \quad (23)$$

Assume the following.

$$(v1_relat_1\ k4_ami_2) \wedge ((v4_relat_1\ k4_ami_2\ np_2) \wedge ((v1_funct_1\ k4_ami_2) \wedge (v1_partfun1\ k4_ami_2\ np_2))) \quad (24)$$

Assume the following.

$$(v1_funct_1\ k3_ami_2) \wedge ((v1_funct_2\ k3_ami_2\ k1_ami_2\ np_2) \wedge (m1_subset_1\ k3_ami_2\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_ami_2\ np_2)))) \quad (25)$$

Assume the following.

$$m1_subset_1\ k2_ami_2\ (k1_zfmisc_1\ k1_ami_2) \quad (26)$$

Assume the following.

$$(v1_extpro_1\ k1_scmpds_2\ np_2) \wedge (l1_extpro_1\ k1_scmpds_2\ np_2) \quad (27)$$

Assume the following.

$$\forall X0. \forall X1. m1_subset_1\ (k1_funct_7\ X0\ X1)\ X1 \quad (28)$$

Assume the following.

$$\forall X0. ((v1_ami_2\ X0) \wedge (m1_subset_1\ X0\ (u1_struct_0\ k1_scmpds_2))) \Rightarrow (k4_scmpds_2\ X0 = k3_xtuple_0\ np_1\ k1_xboole_0\ (k9_finseq_1\ X0)) \quad (29)$$

Assume the following.

$$k1_scmpds_2 = g1_extpro_1\ np_2\ k1_ami_2\ (k1_funct_7\ k5_numbers\ k1_ami_2)\ k1_scmpds_i\ k3_ami_2\ k4_ami_2\ k6_scmpds_1 \quad (30)$$

Assume the following.

$$\forall X0. (v1_ami_2\ X0) \Leftrightarrow (X0 \in k2_ami_2) \quad (31)$$

Assume the following.

$$\forall X0. \forall X1. (l1_extpro_1\ X1\ X0) \Rightarrow ((v1_extpro_1\ X1\ X0) \Rightarrow (X1 = g1_extpro_1\ X0\ (u1_struct_0\ X1)\ (u2_struct_0\ X1)\ (u1_compos_1\ X1)\ (u1_memstr_0\ X0\ X1)\ (u2_memstr_0\ X0\ X1)\ (u1_extpro_1\ X0\ X1))) \quad (32)$$

Theorem 1

$$\forall X0. (m1_subset_1\ X0\ (u1_compos_1\ k1_scmpds_2)) \Rightarrow (\neg(k2_compos_0\ (u1_compos_1\ k1_scmpds_2)\ X0 = np_1) \wedge (\forall X1. ((v1_ami_2\ X1) \wedge (m1_subset_1\ X1\ (u1_struct_0\ k1_scmpds_2))) \Rightarrow (X0 \neq k4_scmpds_2\ X1)))$$