

t17_sf_mastr (TMMeXTCU- VUaaasyjHtDe3H4NhkKMsfsNKFd)

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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 $k1_scmf_sa_2 : \iota$ be given. Let $m1_scmf_sa_2 : \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k14_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_sf_mastr : \iota \Rightarrow \iota$ be given. Let $k5_scmf_sa_m : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k6_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k11_scmf_sa_2 : \iota \Rightarrow \iota$ be given. Let $k12_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_10 : \iota$ be given. Let $np_9 : \iota$ be given. Let $k5_finsub_1 : \iota \Rightarrow \iota$ be given. Let $k2_scmf_sa_2 : \iota$ be given. Let $k3_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $np_3 : \iota$ be given. Let $np_4 : \iota$ be given. Let $np_5 : \iota$ be given. Let $np_7 : \iota$ be given. Let $np_8 : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_scmf_sa_m : \iota \Rightarrow \iota$ be given. Let

$np_11 : \iota$ be given. Let $np_12 : \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2)) \Leftrightarrow (\neg(X0 \neq \\
& \quad k3_xtuple_0 k6_numbers k1_xboole_0 k1_xboole_0) \wedge (\forall X1. \\
& \quad ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& \quad (\forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& \quad (X0 \neq k6_scmfsa_2 X1 X2))) \wedge ((\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 \\
& \quad X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge (\\
& \quad m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (X0 \neq k7_scmfsa_2 \\
& \quad X1 X2))) \wedge ((\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 \\
& \quad k1_scmfsa_2))) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (\\
& \quad u1_struct_0 k1_scmfsa_2))) \Rightarrow (X0 \neq k8_scmfsa_2 X1 X2))) \wedge ((\forall X1. \\
& \quad ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& \quad (\forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& \quad (X0 \neq k9_scmfsa_2 X1 X2))) \wedge ((\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 \\
& \quad X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge (\\
& \quad m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (X0 \neq k10_scmfsa_2 \\
& \quad X1 X2))) \wedge ((\forall X1.(m1_subset_1 X1 k5_numbers) \Rightarrow (X0 \neq k11_scmfsa_2 \\
& \quad X1)) \wedge ((\forall X1.(m1_subset_1 X1 k5_numbers) \Rightarrow (\forall X2.(\\
& \quad (v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\\
& \quad X0 \neq k12_scmfsa_2 X1 X2))) \wedge ((\forall X1.(m1_subset_1 X1 k5_numbers) \Rightarrow \\
& \quad (\forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& \quad (X0 \neq k13_scmfsa_2 X1 X2))) \wedge ((\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 \\
& \quad X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge (\\
& \quad m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X3.(m1_scmfsa_2 \\
& \quad X3) \Rightarrow (X0 \neq k14_scmfsa_2 X2 X1 X3))) \wedge ((\forall X1.((v1_ami_2 X1) \wedge \\
& \quad (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X2.((v1_ami_2 \\
& \quad X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X3. \\
& \quad (m1_scmfsa_2 X3) \Rightarrow (X0 \neq k15_scmfsa_2 X2 X1 X3))) \wedge ((\forall X1. \\
& \quad ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& \quad (\forall X2.(m1_scmfsa_2 X2) \Rightarrow (X0 \neq k16_scmfsa_2 X1 X2))) \wedge (\forall X1. \\
& \quad ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& \quad (\forall X2.(m1_scmfsa_2 X2) \Rightarrow (X0 \neq k17_scmfsa_2 X1 X2))))))))))))) \\
& \tag{1}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_scmfsa_2 X0) \Rightarrow (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 \\
& \quad X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge (\\
& \quad m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (k2_compos_0 (u1_compos_1 \\
& \quad k1_scmfsa_2) (k15_scmfsa_2 X2 X1 X0) = np_10))) \\
& \tag{2}
\end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_scmfsa_2\ X0) \Rightarrow (\forall X1.((v1_ami_2\ X1) \wedge (m1_subset_1 \\ X1\ (u1_struct_0\ k1_scmfsa_2))) \Rightarrow (\forall X2.((v1_ami_2\ X2) \wedge (\\ m1_subset_1\ X2\ (u1_struct_0\ k1_scmfsa_2))) \Rightarrow (k2_compos_0\ (u1_compos_1 \\ k1_scmfsa_2)\ (k14_scmfsa_2\ X1\ X2\ X0) = np_9))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_ami_2\ X0) \wedge (m1_subset_1\ X0\ (u1_struct_0\ k1_scmfsa_2))) \Rightarrow \\ (\forall X1.((v1_ami_2\ X1) \wedge (m1_subset_1\ X1\ (u1_struct_0\ k1_scmfsa_2))) \Rightarrow \\ (\forall X2.(m1_subset_1\ X2\ (u1_compos_1\ k1_scmfsa_2)) \Rightarrow ((\neg(\\ X2 \neq k6_scmfsa_2\ X0\ X1) \wedge ((X2 \neq k7_scmfsa_2\ X0\ X1) \wedge ((X2 \neq k8_scmfsa_2 \\ X0\ X1) \wedge ((X2 \neq k9_scmfsa_2\ X0\ X1) \wedge (X2 \neq k10_scmfsa_2\ X0\ X1)))))) \Rightarrow (\\ k1_sf_mastr\ X2 = k5_scmfsa_m\ X0\ X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1\ X0\ (u1_compos_1\ k1_scmfsa_2)) \Rightarrow (m1_subset_1 \\ (k1_sf_mastr\ X0)\ (k5_finsub_1\ k2_scmfsa_2)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (k5_finsub_1 k2_scmfsa_2)) \Rightarrow (((k2_compos_0 (\\
& u1_compos_1 k1_scmfsa_2) X0 \in k3_enumset1 np_1 np_2 np_3 np_4 \\
& np_5) \Rightarrow ((X1 = k1_sf_mastr X0) \Leftrightarrow (\exists X2.((v1_ami_2 X2) \wedge (m1_subset_1 \\
& X2 (u1_struct_0 k1_scmfsa_2))) \wedge (\exists X3.((v1_ami_2 X3) \wedge (\\
& m1_subset_1 X3 (u1_struct_0 k1_scmfsa_2)))) \wedge ((\neg(X0 \neq k6_scmfsa_2 \\
& X2 X3) \wedge ((X0 \neq k7_scmfsa_2 X2 X3) \wedge ((X0 \neq k8_scmfsa_2 X2 X3) \wedge ((X0 \neq \\
& k9_scmfsa_2 X2 X3) \wedge (X0 \neq k10_scmfsa_2 X2 X3)))))) \wedge (X1 = k5_scmfsa_m \\
& X2 X3)))))) \wedge (((k2_compos_0 (u1_compos_1 k1_scmfsa_2) X0 = np_7) \vee \\
& (k2_compos_0 (u1_compos_1 k1_scmfsa_2) X0 = np_8)) \Rightarrow ((X1 = k1_sf_mastr \\
& X0) \Leftrightarrow (\exists X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 \\
& k1_scmfsa_2))) \wedge (\exists X3.(m2_subset_1 X3 k1_numbers k5_numbers) \wedge \\
& (((X0 = k12_scmfsa_2 X3 X2) \vee (X0 = k13_scmfsa_2 X3 X2)) \wedge (X1 = k4_scmfsa_m \\
& X2)))))) \wedge (((k2_compos_0 (u1_compos_1 k1_scmfsa_2) X0 = np_9) \vee \\
& (k2_compos_0 (u1_compos_1 k1_scmfsa_2) X0 = np_10)) \Rightarrow ((X1 = k1_sf_mastr \\
& X0) \Leftrightarrow (\exists X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 \\
& k1_scmfsa_2))) \wedge (\exists X3.((v1_ami_2 X3) \wedge (m1_subset_1 X3 (\\
& u1_struct_0 k1_scmfsa_2))) \wedge (\exists X4.(m1_scmfsa_2 X4) \wedge ((\\
& (X0 = k14_scmfsa_2 X3 X2 X4) \vee (X0 = k15_scmfsa_2 X3 X2 X4)) \wedge (X1 = k5_scmfsa_m \\
& X2 X3)))))) \wedge (((k2_compos_0 (u1_compos_1 k1_scmfsa_2) X0 = np_11) \vee \\
& (k2_compos_0 (u1_compos_1 k1_scmfsa_2) X0 = np_12)) \Rightarrow ((X1 = k1_sf_mastr \\
& X0) \Leftrightarrow (\exists X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 \\
& k1_scmfsa_2))) \wedge (\exists X3.(m1_scmfsa_2 X3) \wedge (((X0 = k16_scmfsa_2 \\
& X2 X3) \vee (X0 = k17_scmfsa_2 X2 X3)) \wedge (X1 = k4_scmfsa_m X2)))))) \wedge (\neg \\
& (\neg k2_compos_0 (u1_compos_1 k1_scmfsa_2) X0 \in k3_enumset1 np_1 np_2 np_3 np_4 np_5) \wedge ((k2_compos_0 (u1_compos_1 k1_scmfsa_2) \\
& X0 \neq np_7) \wedge ((k2_compos_0 (u1_compos_1 k1_scmfsa_2) X0 \neq np_8) \wedge \\
& ((k2_compos_0 (u1_compos_1 k1_scmfsa_2) X0 \neq np_9) \wedge ((k2_compos_0 \\
& (u1_compos_1 k1_scmfsa_2) X0 \neq np_10) \wedge ((k2_compos_0 (u1_compos_1 \\
& k1_scmfsa_2) X0 \neq np_11) \wedge ((k2_compos_0 (u1_compos_1 k1_scmfsa_2) \\
& X0 \neq np_12) \wedge (\neg(X1 = k1_sf_mastr X0) \Leftrightarrow (X1 = k1_xboole_0))))))))))))) \\
& \tag{6}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 \\
& k1_scmfsa_2))) \wedge ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 \\
& k1_scmfsa_2)))) \Rightarrow (k5_scmfsa_m X0 X1 = k5_scmfsa_m X1 X0) \tag{7}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (\forall X1. ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\
& (\forall X2. (m1_scmfsa_2 X2) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_compos_1 \\
& k1_scmfsa_2)) \Rightarrow (((X3 = k14_scmfsa_2 X0 X1 X2) \vee (X3 = k15_scmfsa_2 \\
& X0 X1 X2)) \Rightarrow (k1_sf_mastr X3 = k5_scmfsa_m X1 X0))))))
\end{aligned}$$