

t4_sfmast3
(TMRPT8NDZnTutryp3fGK2gH3eJnKLM4svr)

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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 $r1_scmf_sa7b : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_scmf_sa_2 : \iota \Rightarrow o$ be given. Let $k2_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k17_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_12 : \iota$ be given. Let $k15_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_10 : \iota$ be given. Let $k14_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_9 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k13_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_8 : \iota$ be given. Let $k12_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_7 : \iota$ be given. Let $k10_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_5 : \iota$ be given. Let $k9_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_4 : \iota$ be given. Let $k8_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k7_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_scmf_sa_2 X0) \Rightarrow (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 \\ X1 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow (k2_compos_0 (u1_compos_1 k1_scmf_sa_2) \\ (k17_scmf_sa_2 X1 X0) = np_12)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_scmf_sa_2 X0) \Rightarrow (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 \\ X1 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge (\\ m1_subset_1 X2 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow (k2_compos_0 (u1_compos_1 \\ k1_scmf_sa_2) (k15_scmf_sa_2 X2 X1 X0) = np_10))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_scmf_sa_2 X0) \Rightarrow (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 \\ X1 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge (\\ m1_subset_1 X2 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow (k2_compos_0 (u1_compos_1 \\ k1_scmf_sa_2) (k14_scmf_sa_2 X1 X2 X0) = np_9))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((v1_ami_2 \\ & X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (k2_compos_0 \\ & (u1_compos_1 k1_scmfsa_2) (k13_scmfsa_2 X0 X1) = np_8)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((v1_ami_2 \\ & X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (k2_compos_0 \\ & (u1_compos_1 k1_scmfsa_2) (k12_scmfsa_2 X0 X1) = np_7)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (k2_compos_0 (u1_compos_1 k1_scmfsa_2) (k10_scmfsa_2 X0 X1) = \\ & np_5)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (k2_compos_0 (u1_compos_1 k1_scmfsa_2) (k9_scmfsa_2 X0 X1) = np_4)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (k2_compos_0 (u1_compos_1 k1_scmfsa_2) (k8_scmfsa_2 X0 X1) = np_3)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X3.((v1_ami_2 X3) \wedge (m1_subset_1 X3 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & ((k6_scmfsa_2 X0 X1 = k6_scmfsa_2 X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (k2_compos_0 (u1_compos_1 k1_scmfsa_2) (k7_scmfsa_2 X0 X1) = np_2)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (k2_compos_0 (u1_compos_1 k1_scmfsa_2) (k6_scmfsa_2 X0 X1) = np_1)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (12)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (13)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 \\ & k1_scmfsa_2))) \wedge ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 \\ & k1_scmfsa_2)))) \Rightarrow (m1_subset_1 (k6_scmfsa_2 X0 X1) (u1_compos_1 \\ & k1_scmfsa_2)) \end{aligned} \quad (15)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2)) \Rightarrow (\forall X1. \\ & ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & ((r1_scmfsa7b X0 X1) \Leftrightarrow (\neg \forall X2. ((v1_ami_2 X2) \wedge (m1_subset_1 \\ & X2 (u1_struct_0 k1_scmfsa_2)))) \Rightarrow (\forall X3. (m2_subset_1 X3 k1_numbers \\ & k5_numbers) \Rightarrow (\forall X4. (m1_scmfsa_2 X4) \Rightarrow ((k6_scmfsa_2 X2 X1 \neq \\ & X0) \wedge ((k7_scmfsa_2 X2 X1 \neq X0) \wedge ((k8_scmfsa_2 X2 X1 \neq X0) \wedge ((k9_scmfsa_2 \\ & X2 X1 \neq X0) \wedge ((k10_scmfsa_2 X2 X1 \neq X0) \wedge ((k10_scmfsa_2 X1 X2 \neq X0) \wedge \\ & ((k12_scmfsa_2 X3 X1 \neq X0) \wedge ((k13_scmfsa_2 X3 X1 \neq X0) \wedge ((k14_scmfsa_2 \\ & X2 X1 X4 \neq X0) \wedge ((k15_scmfsa_2 X1 X2 X4 \neq X0) \wedge ((k15_scmfsa_2 X2 X1 X4 \neq \\ & X0) \wedge (k17_scmfsa_2 X1 X4 \neq X0)))))))))))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (18)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1. ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X2. ((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\neg (X0 \neq X1) \wedge (r1_scmfsa7b (k6_scmfsa_2 X2 X1) X0)))) \end{aligned}$$