

t11_scmfsa_1 (TM-
ZLM2TJxx2zuHMj2WafB5zUwCWtutDoJ1j)

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Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_scmfsa_1 : \iota$ be given. Let $k3_scmfsa_1 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_scmfsa_1 : \iota$ be given. Let $k5_scmfsa_1 : \iota$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k4_numbers : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k7_afinsq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_i : \iota$ 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 $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_relat_1 X3) \wedge \\ & ((v5_ordinal1 X3) \wedge ((v1_funct_1 X3) \wedge (v1_finset_1 X3)))) \Rightarrow ((X3 = \\ & k7_afinsq_1 X0 X1 X2) \Leftrightarrow ((k1_afinsq_1 X3 = np_3) \wedge ((k1_funct_1 X3 \\ & k6_numbers = X0) \wedge ((k1_funct_1 X3 np_1 = X1) \wedge (k1_funct_1 X3 np_2 = \\ & X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ & (k3_relat_1 X1 X2) X0 = k1_funct_1 X2 (k1_funct_1 X1 X0)))) \end{aligned} \tag{3}$$

Assume the following.

$$\neg v1_xboole_0 \ np_3 \tag{4}$$

Assume the following.

$$k3_scmf_sa_1 = k1_scmf_sa_i \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 \ X0)\wedge \\ & (((v1_funct_1 \ X2)\wedge((v1_funct_2 \ X2 \ X0 \ X1)\wedge(m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1))))))\wedge(m1_subset_1 \ X3 \ X0)))\Rightarrow(k3_funct_2 \ X0 \\ & \ X1 \ X2 \ X3 = k1_funct_1 \ X2 \ X3) \end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 \ X1)\wedge(v4_relat_1 \ X1 \ X0))\Rightarrow(\\ & \ k1_relset_1 \ X0 \ X1 = k9_xtuple_0 \ X1) \end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 \ X0 \ k1_scmf_sa_1 \ k3_scmf_sa_1)\Rightarrow(k3_funct_2 \\ & \ k1_scmf_sa_1 \ np_3 \ k4_scmf_sa_1 \ X0 = np_2) \end{aligned} \tag{8}$$

Assume the following.

$$\neg v1_xboole_0 \ k1_scmf_sa_i \tag{9}$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \tag{10}$$

Assume the following.

$$\neg v1_xboole_0 \ k1_scmf_sa_1 \tag{11}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(v5_ordinal1 \ (k7_afinsq_1 \ X0 \\ & \ X1 \ X2))\wedge(v1_finset_1 \ (k7_afinsq_1 \ X0 \ X1 \ X2)) \end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 \ X0)\wedge((\neg v1_xboole_0 \ X1)\wedge \\ & (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ & \ X2 \ X0 \ X1)\Rightarrow(m1_subset_1 \ X2 \ X0)) \end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned} & (v1_relat_1 \ k5_scmf_sa_1)\wedge((v4_relat_1 \ k5_scmf_sa_1 \ np_3)\wedge(\\ & (v1_funct_1 \ k5_scmf_sa_1)\wedge(v1_partfun1 \ k5_scmf_sa_1 \ np_3))) \end{aligned} \tag{14}$$

Assume the following.

$$(v1_funct_1 \ k4_scmf_sa_1) \wedge ((v1_funct_2 \ k4_scmf_sa_1 \ k1_scmf_sa_1 \ np_3) \wedge (m1_subset_1 \ k4_scmf_sa_1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k1_scmf_sa_1 \ np_3)))) \quad (15)$$

Assume the following.

$$m1_subset_1 \ k3_scmf_sa_1 \ (k1_zfmisc_1 \ k1_scmf_sa_1) \quad (16)$$

Assume the following.

$$k5_scmf_sa_1 = k7_afinsq_1 \ k5_numbers \ k4_numbers \ (k3_finseq_2 \ k4_numbers) \quad (17)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (((X1 \neq k1_xboole_0) \Rightarrow ((v1_funct_2 \ X2 \ X0 \ X1) \Leftrightarrow (X0 = k1_relset_1 \ X0 \ X2))) \wedge ((X1 = k1_xboole_0) \Rightarrow ((v1_funct_2 \ X2 \ X0 \ X1) \Leftrightarrow (X2 = k1_xboole_0)))) \quad (18)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow ((v4_relat_1 \ X2 \ X0) \wedge (v5_relat_1 \ X2 \ X1)) \quad (19)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (v1_relat_1 \ X2) \quad (20)$$

Theorem 1

$$\forall X0. (m2_subset_1 \ X0 \ k1_scmf_sa_1 \ k3_scmf_sa_1) \Rightarrow (k1_funct_1 \ (k3_relat_1 \ k4_scmf_sa_1 \ k5_scmf_sa_1) \ X0 = k3_finseq_2 \ k4_numbers)$$