

t13_scmfsa_9
(TMXSKyotg7CLQk9f9MFRmn2r6tvmfqsybTxp)

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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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_6 : \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k2_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 X0 X1) \Leftrightarrow (r1_xxreal_0 (k2_xcmplx_0 \\ & X0 X2) (k2_xcmplx_0 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow (\forall X1.(v7_ordinal1 \\ & X1) \Rightarrow ((X1 \in k2_afinsq_1 X0) \Leftrightarrow (\neg r1_xxreal_0 (k5_card_1 X0) X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))))) \Rightarrow (\forall X1.(\\ & (v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\\ & k5_card_1 (k1_scmfsa_9 X1 X0) = k2_nat_1 (k5_card_1 X0) np_6)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_6) \wedge (m2_subset_1 np_6 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_6 k5_numbers) \wedge (m1_subset_1 np_6 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers)\wedge(v7_ordinal1 X1))\Rightarrow(k2_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (7)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (8)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(v7_ordinal1 X1))\Rightarrow(v7_ordinal1 (k2_xcmplx_0 X0 X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (11)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (12)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow(m1_subset_1 (k5_card_1 X0) k4_ordinal1) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_ami_2 X0)\wedge(m1_subset_1 X0 (u1_struct_0 \\ & k1_scmf_sa_2)))\wedge((v1_relat_1 X1)\wedge((v4_relat_1 X1 k5_numbers)\wedge \\ & ((v5_relat_1 X1 (u1_compos_1 k1_scmf_sa_2))\wedge((\neg v1_xboole_0 X1)\wedge \\ & ((v1_funct_1 X1)\wedge((v1_finset_1 X1)\wedge(v1_afinsq_1 X1)))))))\Rightarrow \\ & ((v1_relat_1 (k1_scmf_sa_9 X0 X1))\wedge((v4_relat_1 (k1_scmf_sa_9 \\ & X0 X1) k5_numbers)\wedge((v5_relat_1 (k1_scmf_sa_9 X0 X1) (u1_compos_1 \\ & k1_scmf_sa_2))\wedge((\neg v1_xboole_0 (k1_scmf_sa_9 X0 X1))\wedge((v1_funct_1 \\ & (k1_scmf_sa_9 X0 X1))\wedge((v1_finset_1 (k1_scmf_sa_9 X0 X1))\wedge(v1_afinsq_1 \\ & (k1_scmf_sa_9 X0 X1)))))))))) \quad (14) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(k2_xcmplx_0 X0 X1 = k2_xcmplx_0 X1 X0) \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (16)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (17)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v1_xreal_0 X0) \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (19)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_ami_2 X0)\wedge(m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2)))\Rightarrow \\ (\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 k5_numbers)\wedge(\\ v5_relat_1 X1 (u1_compos_1 k1_scmfsa_2))\wedge((\neg v1_xboole_0 X1)\wedge \\ ((v1_funct_1 X1)\wedge((v1_finset_1 X1)\wedge(v1_afinsq_1 X1))))))\Rightarrow \\ (\forall X2.(m2_subset_1 X2 k1_numbers k5_numbers)\Rightarrow((\neg r1_xxreal_0 \\ np_6 X2)\Rightarrow(k2_nat_1 (k5_card_1 X1) X2 \in k2_afinsq_1 (k1_scmfsa_9 \\ X0 X1)))))) \end{aligned}$$