

l15_random_1 (TMJi-
mafXTo6vttRcRBBBk7Mu9LB94oMY4EE)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_uproots : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k1_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((r1_tarski (k10_xtuple_0 X1) (k9_xtuple_0 X0)) \Rightarrow ((v1_relat_1 (k3_relat_1 X1 X0)) \wedge ((v1_funct_1 (k3_relat_1 X1 X0)) \wedge (v1_finseq_1 (k3_relat_1 X1 X0)))))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow (k1_rvsum_1 X0 = k10_xtuple_0 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1))))\wedge((v1_funct_1 X5)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X2 X3))))))\Rightarrow(k1_partfun1 X0 X1 X2 X3 X4 X5 = k3_relat_1 X4 X5) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k2_zfmisc_1 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k3_relat_1 X0 X1) \quad (11)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow(m2_finseq_1 (k1_uproots X0) X0) \quad (12)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v3_valued_0 X0))\Rightarrow(m1_subset_1 (k1_rvsum_1 X0) (k1_zfmisc_1 k1_numbers)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1))))\wedge((v1_funct_1 X5)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X2 X3))))))\Rightarrow((v1_funct_1 (k1_partfun1 X0 X1 X2 X3 X4 X5))\wedge(m1_subset_1 \\ & (k1_partfun1 X0 X1 X2 X3 X4 X5) (k1_zfmisc_1 (k2_zfmisc_1 X0 X3)))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1)))\Rightarrow((m1_finseq_1 X1 X0)\Leftrightarrow(r1_tarski (k10_xtuple_0 X1) X0)) \quad (16)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v5_relat_1 X0 k1_numbers))\Rightarrow((v1_relat_1 X0)\wedge(v3_valued_0 X0)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (18)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_relat_1 X1)) \quad (19)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_finset_1 X1)) \quad (20)$$

Theorem 1

$$\forall X0.((\neg v1_xboole_0 X0)\wedge(v1_finset_1 X0))\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers))))\Rightarrow(m2_finseq_1 (k1_partfun1 k5_numbers (k1_relset_1 X0 X1) X0 k1_numbers (k1_uproots (k1_relset_1 X0 X1)) X1) k1_numbers))$$