

t11_cc0sp1 (TMZ-
fyRktP6k1KE3BGyKRobWLYCALRRK9sh)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_numbers : \iota$ 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 $v1_comseq_2 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_xxreal_2 : \iota \Rightarrow o$ be given. Let $k5_cc0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k17_complex1 : \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k2_seq_4 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k10_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. ((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k2_numbers)))) \Rightarrow \\ & ((v1_comseq_2 (k2_partfun1 X1 k2_numbers X2 X0)) \Leftrightarrow (\exists X3. \\ & (v1_xreal_0 X3) \wedge (\forall X4. (m1_subset_1 X4 X1) \Rightarrow ((X4 \in k9_subset_1 \\ & X1 X0 (k1_relset_1 X1 X2)) \Rightarrow (r1_xxreal_0 (k17_complex1 (k7_partfun1 \\ & k2_numbers X2 X4)) X3)))))) \end{aligned} \tag{1}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 X0 k2_numbers) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k2_numbers)))))) \Rightarrow ((v1_comseq_2 (k2_partfun1 X0 k2_numbers \\ & X1 X0)) \Rightarrow (v4_xxreal_2 (k5_cc0sp1 X0 X1))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & (((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))))\wedge(m1_subset_1 X3 X0)))\Rightarrow(k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & ((\neg v1_xboole_0 X1)\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\wedge(m1_subset_1 \\ & X3 X0)))\Rightarrow(k7_partfun1 X1 X2 X3 = k3_funct_2 X0 X1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge \\ & (v1_funct_2 X1 X0 k2_numbers)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k2_numbers))))))\Rightarrow((\neg v1_xboole_0 (k5_cc0sp1 X0 X1))\wedge(m1_subset_1 \\ & (k5_cc0sp1 X0 X1) (k1_zfmisc_1 k1_numbers))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(v1_xreal_0 (k2_seq_4 X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge \\ & (v1_funct_2 X1 X0 k2_numbers)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k2_numbers))))))\Rightarrow(k5_cc0sp1 X0 X1 = ReplSep (toset (\lambda X2 : \iota. \\ & m1_subset_1 X2 X0)) (\lambda X2 : \iota.True) (\lambda X2 : \iota.k17_complex1 \\ & (k3_funct_2 X0 k2_numbers X1 X2)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v3_membered X0)\Rightarrow((v4_xxreal_2 X0)\Rightarrow((v1_xboole_0 \\ & X0)\vee(\forall X1.(v1_xreal_0 X1)\Rightarrow((X1 = k2_seq_4 X0)\Leftrightarrow((\forall X2. \\ & (v1_xreal_0 X2)\Rightarrow((X2 \in X0)\Rightarrow(r1_xxreal_0 X2 X1))))\wedge(\forall X2. \\ & (v1_xreal_0 X2)\Rightarrow(\neg(\neg r1_xxreal_0 X2 k6_numbers)\wedge(\forall X3. \\ & (v1_xreal_0 X3)\Rightarrow(\neg(X3 \in X0)\wedge(\neg r1_xxreal_0 X3 (k10_binop_2 X1 X2)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))\Rightarrow(v3_membered X0) \quad (11)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow (v1_xreal_0\ X1)) \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge \\ & (v1_funct_2\ X1\ X0\ k2_numbers)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ k2_numbers))))\Rightarrow((v1_comseq_2\ (k2_partfun1\ X0\ k2_numbers \\ & X1\ X0))\Leftrightarrow(v4_xxreal_2\ (k5_cc0sp1\ X0\ X1)))) \end{aligned}$$