

t18_c0sp1
(TMLE3PJmFzD9NRqNkmfY3c3ZZPH3VxLnnLE)

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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 $k1_numbers : \iota$ 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 $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_xxreal_2 : \iota \Rightarrow o$ be given. Let $k9_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k18_complex1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v3_valued_0 \\ X1))) \Rightarrow ((v1_comseq_2 (k5_relat_1 X1 X0)) \Leftrightarrow (\exists X2. (v1_xreal_0 \\ X2) \wedge (\forall X3. (X3 \in k3_xboole_0 X0 (k9_xtuple_0 X1)) \Rightarrow (r1_xxreal_0 \\ (k18_complex1 (k1_funct_1 X1 X3)) X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (\forall X2. \neg (X2 \in X1) \wedge (\forall X3. \neg (X3 \in X1) \wedge (X3 \in X2))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1)\Rightarrow((v1_xboole_0 X1)\vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1)\Rightarrow(m1_subset_1 X0 X1) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge \\ (v1_funct_2 X1 X0 k1_numbers)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k1_numbers))))\Rightarrow((v1_comseq_2 (k2_partfun1 X0 k1_numbers \\ X1 X0))\Rightarrow(v4_xreal_2 (k9_c0sp1 X0 X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski X0 X0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow(k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 \\ X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v3_valued_0 X0)))\Rightarrow(k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \quad (12)$$

Assume the following.

$$\forall X0.\exists X1.m1_subset_1 X1 X0 \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow(m1_subset_1 (k9_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge \\ (v1_funct_2 X1 X0 k1_numbers)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k1_numbers))))\Rightarrow((\neg v1_xboole_0 (k9_c0sp1 X0 X1))\wedge(m1_subset_1 \\ (k9_c0sp1 X0 X1) (k1_zfmisc_1 k1_numbers)))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v1_xreal_0\ (k2_seq_4\ X0)) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.(v3_membered\ X0)\Rightarrow((v4_xxreal_2\ X0)\Rightarrow((v1_xboole_0 \\ X0)\vee(\forall X1.(v1_xreal_0\ X1)\Rightarrow((X1 = k2_seq_4\ X0)\Leftrightarrow((\forall X2. \\ (v1_xreal_0\ X2)\Rightarrow((X2 \in X0)\Rightarrow(r1_xxreal_0\ X2\ X1))))\wedge(\forall X2. \\ (v1_xreal_0\ X2)\Rightarrow(\neg(\neg r1_xxreal_0\ X2\ k6_numbers)\wedge(\forall X3. \\ (v1_xreal_0\ X3)\Rightarrow(\neg(X3 \in X0)\wedge(\neg r1_xxreal_0\ X3\ (k10_binop_2\ X1\ X2)))))))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge(\\ (v1_funct_2\ X1\ X0\ k1_numbers)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ X0\ k1_numbers))))))\Rightarrow(k9_c0sp1\ X0\ X1 = ReplSep\ (toset\ (\lambda X2 : \iota. \\ m1_subset_1\ X2\ X0))\ (\lambda X2 : \iota.True)\ (\lambda X2 : \iota.k18_complex1 \\ (k1_seq_1\ X1\ X2)))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0\ X0\ X1 = k3_xboole_0\ X1\ X0 \quad (19)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ (k1_zfmisc_1\ k1_numbers))\Rightarrow(v3_membered\ X0) \quad (20)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge(v5_relat_1\ X0\ k1_numbers))\Rightarrow((v1_relat_1\ X0)\wedge(v3_valued_0\ X0)) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow((v4_relat_1\ X2\ X0)\wedge(v5_relat_1\ X2\ X1)) \quad (22)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(v1_xreal_0\ X0) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_relat_1\ X2) \quad (24)$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge(\\ (v1_funct_2\ X1\ X0\ k1_numbers)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ X0\ k1_numbers))))))\Rightarrow((v1_comseq_2\ (k2_partfun1\ X0\ k1_numbers \\ X1\ X0))\Leftrightarrow(v4_xxreal_2\ (k9_c0sp1\ X0\ X1)))) \end{aligned}$$