

t23_topreal8 (TMZvWBWscWKQgBSGWNm- MGe1eKwJDkdtSXuQ)

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Let $v1_finseq_6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v1_goboard5 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $np_4 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k3_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_finseq_6 X0 (u1_struct_0 (k15_euclid np_2))) \wedge \\ & ((v1_goboard5 X0) \wedge (m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow \\ & ((\neg r1_xxreal_0 (k3_finseq_1 X0) np_4) \Rightarrow (\forall X1. (m2_subset_1 \\ & X1 k1_numbers k5_numbers) \Rightarrow (\forall X2. (m2_subset_1 X2 k1_numbers \\ & k5_numbers) \Rightarrow (\neg (r1_xxreal_0 np_1 X1) \wedge ((\neg r1_xxreal_0 X2 X1) \wedge \\ & ((\neg r1_xxreal_0 (k3_finseq_1 X0) X2) \wedge (k7_partfun1 (u1_struct_0 \\ & (k15_euclid np_2)) X0 X1 = k7_partfun1 (u1_struct_0 (k15_euclid \\ & np_2)) X0 X2))))))))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow \\ & (r1_xxreal_0 X0 X2)))) \quad (3) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1)\Rightarrow((v1_xboole_0 X1)\vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} &\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow \\ &(\forall X1.(v7_ordinal1 X1)\Rightarrow((X1 \in k1_relset_1 k5_numbers X0)\Leftrightarrow \\ &((r1_xxreal_0 np_1 X1)\wedge(r1_xxreal_0 X1 (k3_finseq_1 X0)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0)\Rightarrow(\forall X1.(v1_xxreal_0 X1)\Rightarrow((r1_xxreal_0 X0 X1)\wedge(r1_xxreal_0 X1 X0))\Rightarrow(X0 = X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} &\forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ &(\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers)\Rightarrow(((X1 \in k4_finseq_1 \\ &X0)\wedge(r1_xxreal_0 np_2 (k3_finseq_1 X0)))\Rightarrow(k7_partfun1 (u1_struct_0 \\ &(k15_euclid np_2)) X0 X1 \in k3_topreal1 np_2 X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} &((v2_xxreal_0 np_4)\wedge(m2_subset_1 np_4 k1_numbers k5_numbers))\wedge \\ &((m1_subset_1 np_4 k5_numbers)\wedge(m1_subset_1 np_4 k1_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} &((v2_xxreal_0 np_2)\wedge(m2_subset_1 np_2 k1_numbers k5_numbers))\wedge \\ &((m1_subset_1 np_2 k5_numbers)\wedge(m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} &((v2_xxreal_0 np_1)\wedge(m2_subset_1 np_1 k1_numbers k5_numbers))\wedge \\ &((m1_subset_1 np_1 k5_numbers)\wedge(m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (10)$$

Assume the following.

$$r1_xxreal_0 np_2 np_4 \quad (11)$$

Assume the following.

$$r1_xxreal_0 np_1 np_1 \quad (12)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (14)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (15)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow (k4_finseq_1 X0 = k9_xtuple_0 X0) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (17)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (18)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1))) \quad (21)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(m1_finseq_1 X1 (u1_struct_0 (k15_euclid X0))))\Rightarrow(m1_subset_1 (k3_topreal1 X0 X1) (k1_zfmisc_1 (u1_struct_0 (k15_euclid X0)))) \quad (23)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow(m2_subset_1 (k3_finseq_1 X0) k1_numbers k5_numbers) \quad (24)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\ & ((v1_finseq_6 X1 X0) \Leftrightarrow (k7_partfun1 X0 X1 \text{ np_1} = k7_partfun1 X0 X1 \\ & (k3_finseq_1 X1)))) \end{aligned} \quad (25)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (\\ & (r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0)) \end{aligned} \quad (26)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (27)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 X0) \wedge \\ & (v1_finseq_1 X0)))) \end{aligned} \quad (28)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xxreal_0 X0) \quad (29)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_finseq_6 X0 (u1_struct_0 (k15_euclid \text{ np_2}))) \wedge \\ & ((v1_goboard5 X0) \wedge (m2_finseq_1 X0 (u1_struct_0 (k15_euclid \text{ np_2})))))) \Rightarrow \\ & ((\neg r1_xxreal_0 (k3_finseq_1 X0) \text{ np_4}) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k5_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\neg(\neg \\ & r1_xxreal_0 X1 \text{ np_1}) \wedge (\neg r1_xxreal_0 X2 X1) \wedge ((r1_xxreal_0 X2 \\ & (k3_finseq_1 X0)) \wedge (k7_partfun1 (u1_struct_0 (k15_euclid \text{ np_2})) \\ & X0 X1 = k7_partfun1 (u1_struct_0 (k15_euclid \text{ np_2})) X0 X2)))))) \end{aligned}$$