

l13_extreal1 (TM- cDKW6dsVPvwCD5bHawnKe43qEvGLi2yQP)

October 27, 2020

Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_numbers : \iota$ be given. Let $k2_supinf_1 : \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_extreal1 : \iota \Rightarrow \iota$ be given. Let $k6_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_supinf_2 : \iota$ 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 $k9_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xxreal_0 : \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k8_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k3_supinf_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$k4_extreal1 (k6_finseq_1 k7_numbers) = k1_supinf_2 \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ X1))) \Rightarrow ((X1 = k9_finseq_1 X0) \Leftrightarrow ((k4_finseq_1 X1 = k2_finseq_1 np_1) \wedge \\ (k10_xtuple_0 X1 = k1_tarski X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ (\forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ X1))) \Rightarrow (k10_xtuple_0 (k7_finseq_1 X0 X1) = k2_xboole_0 (k10_xtuple_0 \\ X0) (k10_xtuple_0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\neg (k1_xxreal_3 X0 X1 = k2_xxreal_0) \wedge ((X0 \neq k2_xxreal_0) \wedge (X1 \neq k2_xxreal_0)))) \quad (5)$$

Assume the following.

$$\forall X0 : \iota \Rightarrow o. \forall X1. ((X0 (k6_finseq_1 X1)) \wedge (\forall X2. (m2_finseq_1 X2 X1) \Rightarrow (\forall X3. (m1_subset_1 X3 X1) \Rightarrow ((X0 X2) \Rightarrow (X0 (k7_finseq_1 X2 (k9_finseq_1 X3))))))) \Rightarrow (\forall X2. (m2_finseq_1 X2 X1) \Rightarrow (X0 X2)) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (7)$$

Assume the following.

$$\forall X0. k9_finseq_1 X0 = k5_finseq_1 X0 \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_finseq_1 X1 X0) \wedge (m1_finseq_1 X2 X0)) \Rightarrow (k8_finseq_1 X0 X1 X2 = k7_finseq_1 X1 X2) \quad (9)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k7_numbers) \wedge (m1_subset_1 X1 k7_numbers)) \Rightarrow (k3_supinf_2 X0 X1 = k1_xxreal_3 X0 X1) \quad (11)$$

Assume the following.

$$k2_supinf_1 = k2_xxreal_0 \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (13)$$

Assume the following.

$$k1_supinf_2 = k1_xboole_0 \quad (14)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (k12_finseq_1 X0 X1 = k5_finseq_1 X1) \quad (15)$$

Assume the following.

$$\forall X0.(m2_finseq_1 X0 k7_numbers) \Rightarrow (\forall X1.(m1_subset_1 X1 k7_numbers) \Rightarrow (k4_extreal1 (k8_finseq_1 k7_numbers X0 (k12_finseq_1 k7_numbers X1)) = k3_supinf_2 (k4_extreal1 X0) X1)) \quad (16)$$

Assume the following.

$$\forall X0.v1_finseq_1 (k5_finseq_1 X0) \quad (17)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k5_finseq_1 X0) \wedge (v1_funct_1 (k5_finseq_1 X0))) \quad (18)$$

Assume the following.

$$\neg v1_xboole_0 k7_numbers \quad (19)$$

Assume the following.

$$v3_xxreal_0 k2_xxreal_0 \quad (20)$$

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.

$$\forall X0.\forall X1.\forall X2.((m1_finseq_1 X1 X0) \wedge (m1_finseq_1 X2 X0)) \Rightarrow (m2_finseq_1 (k8_finseq_1 X0 X1 X2) X0) \quad (22)$$

Assume the following.

$$\forall X0.(m1_finseq_1 X0 k7_numbers) \Rightarrow (m1_subset_1 (k4_extreal1 X0) k7_numbers) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (m2_finseq_1 (k12_finseq_1 X0 X1) X0) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_xboole_0 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1_tarski X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow(v5_relat_1 X1 X0) \quad (27)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\neg v3_xreal_0 X0) \quad (28)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k7_numbers)\Rightarrow(v1_xreal_0 X0) \quad (29)$$

Theorem 1

$$\forall X0.(m2_finseq_1 X0 k7_numbers)\Rightarrow(\neg(\neg k2_supinf_1 \in k2_relset_1 k7_numbers X0)\wedge(k4_extreal1 X0 = k2_supinf_1))$$