

t31_toprns_1
(TMM51PJFpXQh4za5ksByroyzpzHp9bYrmwzd)

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Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_euclid : \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k4_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (u1_struct_0\ (k15_euclid\ X0) = k1_euclid\ X0) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m2_finseq_2\ X1\ k1_numbers \\ (k1_euclid\ X0)) \Rightarrow (\forall X2.(m2_finseq_2\ X2\ k1_numbers\ (k1_euclid \\ X0)) \Rightarrow (r1_xxreal_0\ (k9_real_1\ (k12_euclid\ X1)\ (k12_euclid\ X2)) \\ (k12_euclid\ (k7_euclid\ X0\ X1\ X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0\ X0) \wedge ((\neg v1_xboole_0\ X1) \wedge \\ (m1_subset_1\ X1\ (k1_zfmisc_1\ X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2\ X0\ X1) \Leftrightarrow (m1_subset_1\ X2\ X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1_finseq_2\ X1\ X0) \Rightarrow (\forall X2.(m2_finseq_2 \\ X2\ X0\ X1) \Leftrightarrow (m1_subset_1\ X2\ X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0)\wedge((m1_subset_1\ X1\ (k1_euclid\ X0))\wedge(m1_subset_1\ X2\ (k1_euclid\ X0))))\Rightarrow(k7_euclid\ X0\ X1\ X2 = k1_valued_1\ X1\ X2) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge((v3_valued_0\ X0)\wedge(v1_finseq_1\ X0))))\wedge((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge((v3_valued_0\ X1)\wedge(v1_finseq_1\ X1))))))\Rightarrow(k4_rvsum_1\ X0\ X1 = k1_valued_1\ X0\ X1) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ (k15_euclid\ X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ (k15_euclid\ X0)))\Rightarrow(\forall X3.((v1_relat_1\ X3)\wedge((v1_funct_1\ X3)\wedge(v3_valued_0\ X3)))\Rightarrow(\forall X4.((v1_relat_1\ X4)\wedge((v1_funct_1\ X4)\wedge(v3_valued_0\ X4)))\Rightarrow(((X1 = X3)\wedge(X2 = X4))\Rightarrow(k3_rlvect_1\ (k15_euclid\ X0)\ X1\ X2 = k1_valued_1\ X3\ X4)))))) \quad (8)$$

Assume the following.

$$(\neg v1_xboole_0\ k4_ordinal1)\wedge(v3_ordinal1\ k4_ordinal1) \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v4_funct_1\ (u1_struct_0\ (k15_euclid\ X0))) \quad (10)$$

Assume the following.

$$\neg v1_xboole_0\ k1_numbers \quad (11)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (12)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(m1_finseq_2\ (k1_euclid\ X0)\ k1_numbers) \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1)\Rightarrow(v7_ordinal1\ X0) \quad (14)$$

Assume the following.

$$\forall X0.(v4_funct_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v1_relat_1 X1) \wedge (v1_funct_1 X1)) \quad (15)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (v3_valued_0 X1)) \quad (16)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (v1_finseq_1 X1)) \quad (17)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X2. \\ & m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow (r1_xxreal_0 (\\ & k9_real_1 (k12_euclid X1) (k12_euclid X2)) (k12_euclid (k3_rlvect_1 \\ & (k15_euclid X0) X1 X2)))) \end{aligned}$$