

t5_real_ns1 (TMVLGfo- GAFApP4ejbU9qq6swPPanWcJJSyh)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_euclid : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ 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 $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_normsp_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ (k4_real_ns1 X0))) \Rightarrow (\forall X2.(m2_finseq_2 X2 k1_numbers (k1_euclid \\ X0)) \Rightarrow ((X1 = X2) \Rightarrow (k4_algstr_0 (k4_real_ns1 X0) X1 = k6_euclid X0 \\ X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ (k4_real_ns1 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ (k4_real_ns1 X0))) \Rightarrow (\forall X3.(m2_finseq_2 X3 k1_numbers (k1_euclid \\ X0)) \Rightarrow (\forall X4.(m2_finseq_2 X4 k1_numbers (k1_euclid X0)) \Rightarrow \\ (((X1 = X3) \wedge (X2 = X4)) \Rightarrow (k1_algstr_0 (k4_real_ns1 X0) X1 X2 = k7_euclid \\ X0 X3 X4)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7_ordinal1 X0)\wedge((m1_subset_1 \\ X1 (k1_euclid X0))\wedge(m1_subset_1 X2 (k1_euclid X0))))\Rightarrow(k8_euclid \\ X0 X1 X2 = k45_valued_1 X1 X2) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7_ordinal1 X0)\wedge((m1_subset_1 \\ X1 (k1_euclid X0))\wedge(m1_subset_1 X2 (k1_euclid X0))))\Rightarrow(k7_euclid \\ X0 X1 X2 = k1_valued_1 X1 X2) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(m1_subset_1 X1 (k1_euclid X0)))\Rightarrow(k6_euclid X0 X1 = k30_valued_1 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0)\Rightarrow(\forall X2.(m2_finseq_2 X2 X0 X1)\Rightarrow(m2_finseq_1 X2 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge(v1_funct_1 X1)\wedge(v1_finseq_1 X1)) \quad (9)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0)\Rightarrow(l2_algstr_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.(l1_normsp_1 X0)\Rightarrow((l1_rlvect_1 X0)\wedge(l2_normsp_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(m1_subset_1 X1 (k1_euclid X0)))\Rightarrow(m2_finseq_2 (k6_euclid X0 X1) k1_numbers (k1_euclid X0)) \quad (12)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow((\neg v2_struct_0 (k4_real_ns1 X0))\wedge((v1_normsp_1 (k4_real_ns1 X0))\wedge(l1_normsp_1 (k4_real_ns1 X0)))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((l2_algstr_0 X0)\wedge(m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k4_algstr_0 X0 X1) (u1_struct_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(m1_finseq_2\ (k1_euclid\ X0)\ k1_numbers) \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_valued_0\ X0)))\Rightarrow \\ (\forall X1.((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge(v1_valued_0 \\ X1))))\Rightarrow(k45_valued_1\ X0\ X1 = k1_valued_1\ X0\ (k30_valued_1\ X1))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2_algstr_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0 \\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow(k5_algstr_0 \\ X0\ X1\ X2 = k1_algstr_0\ X0\ X1\ (k4_algstr_0\ X0\ X2)))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0)\wedge((m1_subset_1 \\ X1\ (k1_euclid\ X0))\wedge(m1_subset_1\ X2\ (k1_euclid\ X0))))\Rightarrow(k7_euclid \\ X0\ X1\ X2 = k7_euclid\ X0\ X2\ X1) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge(v3_valued_0\ X0))\Rightarrow((v1_relat_1 \\ X0)\wedge(v1_valued_0\ X0)) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1\ X1\ X0)\Rightarrow(v5_relat_1\ X1\ X0) \quad (20)$$

Assume the following.

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

Theorem 1

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0 \\ (k4_real_ns1\ X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0 \\ (k4_real_ns1\ X0)))\Rightarrow(\forall X3.(m2_finseq_2\ X3\ k1_numbers\ (k1_euclid \\ X0))\Rightarrow(\forall X4.(m2_finseq_2\ X4\ k1_numbers\ (k1_euclid\ X0))\Rightarrow \\ (((X1 = X3)\wedge(X2 = X4))\Rightarrow(k5_algstr_0\ (k4_real_ns1\ X0)\ X1\ X2 = k8_euclid \\ X0\ X3\ X4)))))) \end{aligned}$$