

t38_euclid_7

(TMFtfYRTzo8dVzeKep6JqEyoGguNHyoQ41s2)

October 27, 2020

Let $v7_ordinal1 : \iota \Rightarrow o$ 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 $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_real_ns1 : \iota \Rightarrow \iota$ be given. Let $k23_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_relat_1 : \iota \Rightarrow o$ 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 $k22_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k14_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (&((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((\\ v3_valued_0 X0) \wedge (v1_finseq_1 X0)))) \wedge &((v1_relat_1 X1) \wedge ((v1_funct_1 \\ X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow &(k23_rvsum_1 X0 \\ X1 = k22_rvsum_1 X0 X1) & \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_2 X1 X0) \Rightarrow (\forall X2. (m2_finseq_2 X2 X0 X1) \Rightarrow (m2_finseq_1 X2 X0)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (v7_ordinal1 X0) \Rightarrow &((v1_funct_1 (k6_real_ns1 X0)) \wedge \\ ((v1_funct_2 (k6_real_ns1 X0) (k2_zfmisc_1 &(k1_euclid X0) (k1_euclid \\ X0)) k1_numbers) \wedge (m1_subset_1 (k6_real_ns1 X0) &(k1_zfmisc_1 \\ (k2_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) (k1_euclid X0)) &k1_numbers)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(v7_ordinal1\ X0)\Rightarrow(m1_finseq_2\ (k4_finseq_2\ X0\ X1)\ X1) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge((\\ v1_funct_2\ X1\ (k2_zfmisc_1\ (k1_euclid\ X0)\ (k1_euclid\ X0))\ k1_numbers)\wedge \\ (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_zfmisc_1\ (k1_euclid \\ X0)\ (k1_euclid\ X0))\ k1_numbers))))))\Rightarrow((X1 = k6_real_ns1\ X0)\Leftrightarrow(\forall X2. \\ (m2_finseq_2\ X2\ k1_numbers\ (k1_euclid\ X0))\Rightarrow(\forall X3.(m2_finseq_2 \\ X3\ k1_numbers\ (k1_euclid\ X0))\Rightarrow(k2_binop_1\ (k1_euclid\ X0)\ (k1_euclid \\ X0)\ k1_numbers\ X1\ X2\ X3 = k18_rvsum_1\ (k14_rvsum_1\ X2\ X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(k1_euclid\ X0 = k4_finseq_2\ X0\ k1_numbers) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge((v3_valued_0 \\ X0)\wedge(v1_finseq_1\ X0))))\Rightarrow(\forall X1.((v1_relat_1\ X1)\wedge((v1_funct_1 \\ X1)\wedge((v3_valued_0\ X1)\wedge(v1_finseq_1\ X1))))\Rightarrow(k22_rvsum_1\ X0\ X1 = \\ k18_rvsum_1\ (k14_rvsum_1\ X0\ X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1\ X1\ X0)\Rightarrow(v5_relat_1\ X1\ X0) \quad (10)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge(v5_relat_1\ X0\ k1_numbers))\Rightarrow((v1_relat_1\ X0)\wedge(v3_valued_0\ X0)) \quad (11)$$

Theorem 1

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(m2_finseq_2\ X1\ k1_numbers \\ (k1_euclid\ X0))\Rightarrow(\forall X2.(m2_finseq_2\ X2\ k1_numbers\ (k1_euclid \\ X0))\Rightarrow(k2_binop_1\ (k1_euclid\ X0)\ (k1_euclid\ X0)\ k1_numbers\ (k6_real_ns1 \\ X0)\ X1\ X2 = k23_rvsum_1\ X1\ X2))) \end{aligned}$$