

t78_euclid_8 (TMU-
jhE9XJ8bkVQCGQfP96Hz4BJ2zR9W5xHh)

October 27, 2020

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 $np_3 : \iota$ be given. Let $k23_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow & (\forall X1.(m2_finseq_2 X1 k1_numbers \\ & (k4_finseq_2 X0 k1_numbers)) \Rightarrow (\forall X2.(m2_finseq_2 X2 k1_numbers \\ & (k4_finseq_2 X0 k1_numbers)) \Rightarrow (\forall X3.(m2_finseq_2 X3 k1_numbers \\ & (k4_finseq_2 X0 k1_numbers)) \Rightarrow (\forall X4.(m2_finseq_2 X4 k1_numbers \\ & (k4_finseq_2 X0 k1_numbers)) \Rightarrow (k23_rvsum_1 (k9_rvsum_1 X0 X1 X2) \\ & (k9_rvsum_1 X0 X3 X4) = k9_binop_2 (k10_binop_2 (k10_binop_2 (k23_rvsum_1 \\ & X1 X3) (k23_rvsum_1 X1 X4)) (k23_rvsum_1 X2 X3)) (k23_rvsum_1 X2 \\ & X4)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_3) \wedge (m2_subset_1 np_3 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_3 k5_numbers) \wedge (m1_subset_1 np_3 k1_numbers)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7_ordinal1 X0) \wedge ((m1_subset_1 \\ X1 (k4_finseq_2 X0 k1_numbers)) \wedge (m1_subset_1 X2 (k4_finseq_2 \\ X0 k1_numbers)))) \Rightarrow (k9_rvsum_1 X0 X1 X2 = k45_valued_1 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0)\wedge((m1_subset_1\ X1\ (k1_euclid\ X0))\wedge(m1_subset_1\ X2\ (k1_euclid\ X0))))\Rightarrow(k8_euclid\ X0\ X1\ X2 = k45_valued_1\ X1\ X2) \quad (5)$$

Assume the following.

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

Assume the following.

$$v6_membered\ k4_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(v7_ordinal1\ X0)\Rightarrow(m1_finseq_2\ (k4_finseq_2\ X0\ X1)\ X1) \quad (8)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(k1_euclid\ X0 = k4_finseq_2\ X0\ k1_numbers) \quad (9)$$

Assume the following.

$$\forall X0.(v6_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v7_ordinal1\ X1)) \quad (10)$$

Theorem 1

$$\forall X0.(m2_finseq_2\ X0\ k1_numbers\ (k1_euclid\ np_3))\Rightarrow(\forall X1.(m2_finseq_2\ X1\ k1_numbers\ (k1_euclid\ np_3))\Rightarrow(\forall X2.(m2_finseq_2\ X2\ k1_numbers\ (k1_euclid\ np_3))\Rightarrow(\forall X3.(m2_finseq_2\ X3\ k1_numbers\ (k1_euclid\ np_3))\Rightarrow(k23_rvsum_1\ (k8_euclid\ np_3\ X0\ X1)\ (k8_euclid\ np_3\ X2\ X3) = k9_binop_2\ (k10_binop_2\ (k10_binop_2\ (k23_rvsum_1\ X0\ X2)\ (k23_rvsum_1\ X0\ X3))\ (k23_rvsum_1\ X1\ X2))\ (k23_rvsum_1\ X1\ X3))))))$$