

t82_euclid_8

(TMPSeb1sg8SXXN53P355zaEivZ2JGYJRbEZ6)

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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 $k7_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k4_ordinal1 : \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m2_finseq_2 X0 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X1. \\
 & (m2_finseq_2 X1 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X2.(m2_finseq_2 \\
 & X2 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X3.(m2_finseq_2 X3 \\
 & k1_numbers (k1_euclid np_3)) \Rightarrow (k23_rvsum_1 (k7_euclid np_3 \\
 & X0 X1) (k7_euclid np_3 X2 X3) = k9_binop_2 (k9_binop_2 (k9_binop_2 \\
 & (k23_rvsum_1 X0 X2) (k23_rvsum_1 X0 X3)) (k23_rvsum_1 X1 X2)) (k23_rvsum_1 \\
 & X1 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m2_finseq_2 X1 k1_numbers \\
 & (k4_finseq_2 X0 k1_numbers)) \Rightarrow (\forall X2.(m2_finseq_2 X2 k1_numbers \\
 & (k4_finseq_2 X0 k1_numbers)) \Rightarrow (k23_rvsum_1 (k5_rvsum_1 X0 X1 X2) \\
 & (k5_rvsum_1 X0 X1 X2) = k9_binop_2 (k9_binop_2 (k23_rvsum_1 X1 X1) \\
 & (k11_binop_2 np_2 (k23_rvsum_1 X1 X2))) (k23_rvsum_1 X2 X2))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow & (\forall X1.(m2_finseq_2\ X1\ k1_numbers \\ & (k4_finseq_2\ X0\ k1_numbers)) \Rightarrow (\forall X2.(m2_finseq_2\ X2\ k1_numbers \\ & (k4_finseq_2\ X0\ k1_numbers)) \Rightarrow (\forall X3.(m2_finseq_2\ X3\ k1_numbers \\ & (k4_finseq_2\ X0\ k1_numbers)) \Rightarrow (\forall X4.(m2_finseq_2\ X4\ k1_numbers \\ & (k4_finseq_2\ X0\ k1_numbers)) \Rightarrow (k23_rvsum_1\ (k5_rvsum_1\ X0\ X1\ X2) \\ & (k5_rvsum_1\ X0\ X3\ X4) = k9_binop_2\ (k9_binop_2\ (k9_binop_2\ (k23_rvsum_1 \\ & X1\ X3)\ (k23_rvsum_1\ X1\ X4))\ (k23_rvsum_1\ X2\ X3))\ (k23_rvsum_1\ X2 \\ & X4)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0\ np_3) \wedge (m2_subset_1\ np_3\ k1_numbers\ k5_numbers)) \wedge \\ ((m1_subset_1\ np_3\ k5_numbers) \wedge (m1_subset_1\ np_3\ k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$v6_membered\ k4_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (k1_euclid\ X0 = k4_finseq_2\ X0\ k1_numbers) \quad (7)$$

Assume the following.

$$\forall X0.(v6_membered\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ X0) \Rightarrow (v7_ordinal1\ X1)) \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.(m2_finseq_2\ X0\ k1_numbers\ (k1_euclid\ np_3)) \Rightarrow & (\forall X1. \\ & (m2_finseq_2\ X1\ k1_numbers\ (k1_euclid\ np_3)) \Rightarrow (k23_rvsum_1\ (\\ & k7_euclid\ np_3\ X0\ X1)\ (k7_euclid\ np_3\ X0\ X1) = k9_binop_2\ (k9_binop_2 \\ & (k23_rvsum_1\ X0\ X0)\ (k11_binop_2\ np_2\ (k23_rvsum_1\ X0\ X1)))\ (k23_rvsum_1 \\ & X1\ X1))) \end{aligned}$$