

l10_euclid_8 (TM- SCG3a5H9XzaWEfan9Miv3DQXJjagHjssW)

October 27, 2020

Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k7_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k1_euclid_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_relat_1 X3) \wedge \\ & ((v1_funct_1 X3) \wedge (v1_finseq_1 X3))) \Rightarrow ((X3 = k11_finseq_1 X0 X1 \\ & X2) \Leftrightarrow ((k3_finseq_1 X3 = np_3) \wedge ((k1_funct_1 X3 np_1 = X0) \wedge ((k1_funct_1 \\ & X3 np_2 = X1) \wedge (k1_funct_1 X3 np_3 = X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_xreal_0 X0) \wedge ((v1_xreal_0 \\ & X1) \wedge (v1_xreal_0 X2))) \Rightarrow (k1_euclid_8 X0 X1 X2 = k11_finseq_1 X0 X1 \\ & X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m2_finseq_2 X0 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X1. \\ & (m2_finseq_2 X1 k1_numbers (k1_euclid np_3)) \Rightarrow (k7_euclid np_3 \\ & X0 X1 = k1_euclid_8 (k9_binop_2 (k1_seq_1 X0 np_1) (k1_seq_1 X1 \\ & np_1)) (k9_binop_2 (k1_seq_1 X0 np_2) (k1_seq_1 X1 np_2)) (k9_binop_2 \\ & (k1_seq_1 X0 np_3) (k1_seq_1 X1 np_3)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1_relat_1 (k11_finseq_1 X0 X1 X2))\wedge(v1_funct_1 (k11_finseq_1 X0 X1 X2)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_xreal_0 X0)\wedge((v1_xreal_0 X1)\wedge(v1_xreal_0 X2)))\Rightarrow(v3_valued_0 (k11_finseq_1 X0 X1 X2)) \quad (6)$$

Assume the following.

$$v3_membered\ k1_numbers \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.v1_finseq_1 (k11_finseq_1 X0 X1 X2) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_xreal_0 X0)\wedge((v1_xreal_0 X1)\wedge(v1_xreal_0 X2)))\Rightarrow(m2_finseq_2 (k1_euclid_8 X0 X1 X2)\ k1_numbers (k1_euclid\ np_3)) \quad (9)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xreal_0\ X1)) \quad (10)$$

Theorem 1

$$\begin{aligned} &\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(\forall X1.(m1_subset_1\ X1\ k1_numbers)\Rightarrow(\forall X2.(m1_subset_1\ X2\ k1_numbers)\Rightarrow(\forall X3. \\ &(m1_subset_1\ X3\ k1_numbers)\Rightarrow(\forall X4.(m1_subset_1\ X4\ k1_numbers)\Rightarrow \\ &(\forall X5.(m1_subset_1\ X5\ k1_numbers)\Rightarrow(k7_euclid\ np_3\ (k1_euclid_8 \\ &X0\ X1\ X2)\ (k1_euclid_8\ X3\ X4\ X5) = k1_euclid_8\ (k9_binop_2\ X0\ X3)\ (\\ &k9_binop_2\ X1\ X4)\ (k9_binop_2\ X2\ X5)))))) \end{aligned}$$