

117_euclid.8 (TMMaz- FuSVSNBT7mkCd5VxX4oZcht6H8oV68)

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Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $m2_finseq.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k1_euclid.8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k23_rvsum.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_binop.2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_square.1 : \iota \Rightarrow \iota$ 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 $k11_finseq.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v2_xreal.0 : \iota \Rightarrow o$ be given. Let $m2_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m2_finseq.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_square.1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ 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 $k11_binop.2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xcmplx.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $m1_finseq.2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xcmplx.0 : \iota \Rightarrow o$ be given. Let $v5_relat.1 : \iota \Rightarrow \iota \Rightarrow o$ 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.

$$\begin{aligned} & ((v2_xreal.0 np_3) \wedge (m2_subset.1 np_3 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset.1 np_3 k5_numbers) \wedge (m1_subset.1 np_3 k1_numbers)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq.1 X1 X0) \Leftrightarrow (m1_finseq.1 X1 X0) \quad (3)$$

Assume the following.

$$\forall X0. (m1_subset.1 X0 k1_numbers) \Rightarrow (k5_square.1 X0 = k3_square.1 X0) \quad (4)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v3_valued_0 X0)))\Rightarrow(k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_xreal_0 X0)\wedge((v1_xreal_0 X1)\wedge(v1_xreal_0 X2)))\Rightarrow(k1_euclid_8 X0 X1 X2 = k11_finseq_1 X0 X1 X2) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(k11_binop_2 X0 X1 = k3_xcmplx_0 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.(m2_finseq_2 X0 k1_numbers (k1_euclid np_3))\Rightarrow(\forall X1.(m2_finseq_2 X1 k1_numbers (k1_euclid np_3))\Rightarrow(k23_rvsum_1 X0 X1 = k9_binop_2 (k9_binop_2 (k11_binop_2 (k1_seq_1 X0 np_1) (k1_seq_1 X1 np_1)) (k11_binop_2 (k1_seq_1 X0 np_2) (k1_seq_1 X1 np_2))) (k11_binop_2 (k1_seq_1 X0 np_3) (k1_seq_1 X1 np_3)))) \quad (9)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (10)$$

Assume the following.

$$v3_membered k1_numbers \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0)\Rightarrow(\forall X2.(m2_finseq_2 X2 X0 X1)\Rightarrow(m2_finseq_1 X2 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1))) \quad (13)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(m1_finseq_2 (k1_euclid X0) k1_numbers) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_square_1 X0 = k3_xcmplx_0 X0 X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0) \Rightarrow (v5_relat_1 X1 X0) \quad (16)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v5_relat_1 X0 k1_numbers)) \Rightarrow ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \quad (17)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xcmplx_0 X0) \quad (18)$$

Assume the following.

$$\forall X0.(v6_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v7_ordinal1 X1)) \quad (19)$$

Assume the following.

$$\forall X0.(v3_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v1_xreal_0 X1)) \quad (20)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3. \\ & (m2_finseq_2 X3 k1_numbers (k1_euclid np_3)) \Rightarrow ((X3 = k1_euclid_8 \\ & X0 X1 X2) \Rightarrow (k23_rvsum_1 X3 X3 = k9_binop_2 (k9_binop_2 (k5_square_1 \\ & X0) (k5_square_1 X1)) (k5_square_1 X2)))))) \end{aligned}$$