

t52_euclid_2

(TMHrDzT5YMEEnHCF53FrssFAqhnq27KjxTkK)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12_euclid : \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k4_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 \\ & X0) \wedge (v3_valued_0 X0)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_finseq_1 X1) \wedge (v3_valued_0 X1)))) \Rightarrow ((k3_finseq_1 X0 = \\ & k3_finseq_1 X1) \Rightarrow (r1_xxreal_0 (k12_euclid (k4_rvsum_1 X0 X1)) \\ & (k9_binop_2 (k12_euclid X0) (k12_euclid X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((v7_ordinal1 \\ & X0) \wedge ((m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \wedge ((m1_subset_1 \\ & X2 (u1_struct_0 (k15_euclid X0))) \wedge ((v1_relat_1 X3) \wedge ((v1_funct_1 \\ & X3) \wedge ((v1_finseq_1 X3) \wedge (v3_valued_0 X3)))) \wedge ((v1_relat_1 X4) \wedge \\ & ((v1_funct_1 X4) \wedge ((v1_finseq_1 X4) \wedge (v3_valued_0 X4)))))) \Rightarrow \\ & (((X1 = X3) \wedge (X2 = X4)) \Rightarrow (k3_rlvect_1 (k15_euclid X0) X1 X2 = k4_rvsum_1 \\ & X3 X4)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (v4_funct_1 (u1_struct_0 (k15_euclid X0))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(v3_card_1 X1 X0)\Leftrightarrow(k1_card_1 X1 = X0) \quad (5)$$

Assume the following.

$$\forall X0.(v4_funct_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge(v1_funct_1 X1))) \quad (6)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid X0)))\Rightarrow(v3_card_1 X1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid X0)))\Rightarrow(v3_valued_0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid X0)))\Rightarrow(v1_finseq_1 X1)) \quad (9)$$

Theorem 1

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid X0)))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid X0)))\Rightarrow(r1_xxreal_0 (k12_euclid (k3_rlvect_1 (k15_euclid X0) X1 X2)) (k9_binop_2 (k12_euclid X1) (k12_euclid X2))))))$$