

t2_euclid_9 (TMStdM DYG- tAuWhZ9idsecp6TLwKUdFHZ7wF)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ 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 $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k13_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_2 X1 X0) \Rightarrow (\forall X2. (m2_finseq_2 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (2)$$

Assume the following.

$$\forall X0. k3_finseq_2 X0 = k13_finseq_1 X0 \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (4)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 X0) \wedge (v1_finseq_1 X0)))) \Rightarrow (m2_finseq_1 X0 k1_numbers) \quad (5)$$

Assume the following.

$$\forall X0. m1_finseq_2 (k3_finseq_2 X0) X0 \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (v3_card_1 X1 X0) \Leftrightarrow (k1_card_1 X1 = X0) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.k4_finseq_2\ X0\ X1 = ReplSep\ (toset\ (\lambda X2 : \iota.m2_finseq_2\ X2\ X1\ (k3_finseq_2\ X1)))\ (\lambda X2 : \iota.k3_finseq_1\ X2 = X0)\ (\lambda X2 : \iota.X2)) \quad (8)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(X1 = k13_finseq_1\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (m2_finseq_1\ X2\ X0)) \quad (10)$$

Theorem 1

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((v1_relat_1\ X1) \wedge ((v1_funct_1\ X1) \wedge ((v3_valued_0\ X1) \wedge ((v3_card_1\ X1\ X0) \wedge (v1_finseq_1\ X1)))))) \Rightarrow (X1 \in k1_euclid\ X0))$$