

t17_topgen_5
(TMTMm5b8V1efNv4SuMG6TnnuAXmQEAWei9K)

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Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_topgen_5 : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k19_euclid : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (k10_finseq_1 X0 X1 = k10_finseq_1 X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (k19_euclid X0 X1 = k10_finseq_1 X0 X1) \quad (3)$$

Assume the following.

$$k2_topgen_5 = ReplSep2 (toset (\lambda X0 : \iota. m1_subset_1 X0 k1_numbers)) (\lambda X0 : \iota. toset (\lambda X1 : \iota. m1_subset_1 X1 k1_numbers)) (\lambda X0 : \iota. \lambda X1 : \iota. r1_xreal_0 k6_numbers X1) (\lambda X0 : \iota. \lambda X1 : \iota. k19_euclid X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Leftrightarrow (X0 \in k1_numbers) \quad (5)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (6)$$

Theorem 1

$$\forall X0. \forall X1. (k10_finseq_1 X0 X1 \in k2_topgen_5) \Leftrightarrow ((X0 \in k1_numbers) \wedge (\exists X2. (m1_subset_1 X2 k1_numbers) \wedge ((X1 = X2) \wedge (r1_xreal_0 k6_numbers X2))))$$