

l45_euclidlp

(TMWWYUzeMh3kLSH9yAJ22zLkwJTHn1ojc9b)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $r2_euclidlp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_euclidlp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_euclid : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k5_euclid : \iota \Rightarrow \iota$ be given. Let $k8_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_euclidlp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k5_numbers) \Rightarrow (\forall X2.(m2_finseq_2 X2 k1_numbers (k1_euclid \\ & X1) \Rightarrow ((k6_euclid X1 (k9_euclid X1 X2 X0) = k9_euclid X1 X2 (k1_real_1 \\ & X0)) \wedge (k6_euclid X1 (k9_euclid X1 X2 X0) = k9_euclid X1 (k6_euclid \\ & X1 X2 X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m2_finseq_2 X1 k1_numbers \\ & (k1_euclid X0) \Rightarrow ((k9_euclid X0 X1 np_1 = X1) \wedge (k9_euclid X0 X1 k6_numbers = \\ & k5_euclid X0))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m2_finseq_2 \\ & X1 k1_numbers (k1_euclid X0) \Rightarrow ((k8_euclid X0 X1 X1 = k5_euclid X0) \wedge \\ & (k7_euclid X0 X1 (k6_euclid X0 X1) = k5_euclid X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1_subset_1 X0 k5_numbers)\wedge \\ & ((m1_subset_1 X1 (k1_euclid X0))\wedge(m1_subset_1 X2 (k1_euclid X0))))\Rightarrow \\ & ((r2_euclidlp X0 X1 X2)\Leftrightarrow(r1_euclidlp X0 X1 X2)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_finseq_2 X1 X0)\Rightarrow(\forall X2.(m2_finseq_2 \\ & X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(m1_subset_1 (k1_real_1 \\ & X0) k1_numbers) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(m1_finseq_2 (k1_euclid X0) k1_numbers) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\forall X1.(m2_finseq_2 \\ & X1 k1_numbers (k1_euclid X0))\Rightarrow(\forall X2.(m2_finseq_2 X2 k1_numbers \\ & (k1_euclid X0))\Rightarrow((r3_euclidlp X0 X1 X2)\Leftrightarrow(\forall X3.(m1_subset_1 \\ & X3 k1_numbers)\Rightarrow(\forall X4.(m1_subset_1 X4 k1_numbers)\Rightarrow((k7_euclid \\ & X0 (k9_euclid X0 X1 X3) (k9_euclid X0 X2 X4) = k5_euclid X0)\Rightarrow((X3 = \\ & k6_numbers)\wedge(X4 = k6_numbers)))))))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\forall X1.(m2_finseq_2 \\ & X1 k1_numbers (k1_euclid X0))\Rightarrow(\forall X2.(m2_finseq_2 X2 k1_numbers \\ & (k1_euclid X0))\Rightarrow((r1_euclidlp X0 X1 X2)\Leftrightarrow((X1\neq k5_euclid X0)\wedge(\\ & (X2\neq k5_euclid X0)\wedge(\exists X3.(m1_subset_1 X3 k1_numbers)\wedge(\\ & X1 = k9_euclid X0 X2 X3)))))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v6_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow \\ & (v7_ordinal1 X1)) \end{aligned} \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\forall X1.(m2_finseq_2 \\ & X1 k1_numbers (k1_euclid X0))\Rightarrow(\forall X2.(m2_finseq_2 X2 k1_numbers \\ & (k1_euclid X0))\Rightarrow(\neg(r2_euclidlp X0 X1 X2)\wedge(r3_euclidlp X0 X1 X2)))) \end{aligned}$$