

t69_euclid_8

(TMSbdrBe4sRhNx Eodh6B9gzs4nj9b6mbCZL)

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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 $k8_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_euclid_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $k10_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k6_euclid : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_2 X0 k1_numbers (k1_euclid np_3)) \Rightarrow (X0 = \\ & k1_euclid_8 (k1_seq_1 X0 np_1) (k1_seq_1 X0 np_2) (k1_seq_1 X0 \\ & np_3)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3. \\ & (m2_finseq_2 X3 k1_numbers (k1_euclid X2)) \Rightarrow ((k9_euclid X2 X3 (\\ & k9_real_1 X0 X1) = k7_euclid X2 (k9_euclid X2 X3 X0) (k9_euclid X2 \\ & X3 (k1_real_1 X1))) \wedge ((k9_euclid X2 X3 (k9_real_1 X0 X1) = k7_euclid \\ & X2 (k9_euclid X2 X3 X0) (k6_euclid X2 (k9_euclid X2 X3 X1))) \wedge (k9_euclid \\ & X2 X3 (k9_real_1 X0 X1) = k8_euclid X2 (k9_euclid X2 X3 X0) (k9_euclid \\ & X2 X3 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_3) \wedge (m2_subset_1 np_3 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_3 k5_numbers) \wedge (m1_subset_1 np_3 k1_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 \\ & X1)) \Rightarrow (k9_real_1 X0 X1 = k6_xcmplx_0 X0 X1) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(k10_binop_2 X0 X1 = k6_xcmplx_0 X0 X1) \quad (5)$$

Assume the following.

$$v3_membered\ k1_numbers \quad (6)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xreal_0\ X1)) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(\forall X1.(m1_subset_1 \\ & X1\ k1_numbers)\Rightarrow(\forall X2.(m2_finseq_2\ X2\ k1_numbers\ (k1_euclid \\ & np_3))\Rightarrow(k8_euclid\ np_3\ (k9_euclid\ np_3\ X2\ X0)\ (k9_euclid\ np_3 \\ & X2\ X1) = k9_euclid\ np_3\ (k1_euclid_8\ (k1_seq_1\ X2\ np_1)\ (k1_seq_1 \\ & X2\ np_2)\ (k1_seq_1\ X2\ np_3))\ (k10_binop_2\ X0\ X1)))) \end{aligned}$$