

l16_euclid_4

(TMY5idTyKdQ5bizyb4MLeXiwBkt3Esxyz9W)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_euclid_4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_euclid_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m2_finseq_2 X1 k1_numbers \\ & (k1_euclid X0)) \Rightarrow (\forall X2.(m2_finseq_2 X2 k1_numbers (k1_euclid \\ & X0)) \Rightarrow (\forall X3.(m2_finseq_2 X3 k1_numbers (k1_euclid X0)) \Rightarrow \\ & (\forall X4.(m2_finseq_2 X4 k1_numbers (k1_euclid X0)) \Rightarrow (((X1 \in \\ & k2_euclid_4 X0 X2 X3) \wedge (X4 \in k2_euclid_4 X0 X2 X3)) \Rightarrow ((X1 = X4) \vee (r1_tarski \\ & (k2_euclid_4 X0 X2 X3) (k2_euclid_4 X0 X1 X4)))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m2_finseq_2 X1 k1_numbers \\ & (k1_euclid X0)) \Rightarrow (\forall X2.(m2_finseq_2 X2 k1_numbers (k1_euclid \\ & X0)) \Rightarrow (\forall X3.(m2_finseq_2 X3 k1_numbers (k1_euclid X0)) \Rightarrow \\ & (\forall X4.(m2_finseq_2 X4 k1_numbers (k1_euclid X0)) \Rightarrow (((X1 \in \\ & k2_euclid_4 X0 X2 X3) \wedge (X4 \in k2_euclid_4 X0 X2 X3)) \Rightarrow (r1_tarski (k2_euclid_4 \\ & X0 X1 X4) (k2_euclid_4 X0 X2 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_euclid X0))) \Rightarrow ((v1_euclid_4 X1 X0) \Leftrightarrow (\exists X2.(m2_finseq_2 \\ & X2 k1_numbers (k1_euclid X0)) \wedge (\exists X3.(m2_finseq_2 X3 k1_numbers \\ & (k1_euclid X0)) \wedge ((X2 \neq X3) \wedge (X1 = k2_euclid_4 X0 X2 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (r1_tarski X1 X0)) \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ & (k1_euclid\ X0))) \Rightarrow (\forall X2.(m2_finseq_2\ X2\ k1_numbers\ (k1_euclid \\ & X0)) \Rightarrow (\forall X3.(m2_finseq_2\ X3\ k1_numbers\ (k1_euclid\ X0)) \Rightarrow \\ & (((v1_euclid_4\ X1\ X0) \wedge ((X2 \in X1) \wedge (X3 \in X1))) \Rightarrow ((X2 = X3) \vee (X1 = k2_euclid_4 \\ & X0\ X2\ X3)))))) \end{aligned}$$