

# t9\_euclidp (TM- beKUU87PzHc2DPW1PKrcLLaQmheLsitCS)

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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  $k8\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_euclid : \iota \Rightarrow \iota$  be given. Let  $k7\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ & X1 k1\_numbers (k1\_euclid X0)) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 k1\_numbers \\ & (k1\_euclid X0)) \Rightarrow (\forall X3.(m2\_finseq\_2 X3 k1\_numbers (k1\_euclid \\ & X0)) \Rightarrow ((X1 = k7\_euclid X0 X2 X3) \Leftrightarrow (X2 = k8\_euclid X0 X1 X3)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ & X1 k1\_numbers (k1\_euclid X0)) \Rightarrow ((k8\_euclid X0 X1 X1 = k5\_euclid X0) \wedge \\ & (k7\_euclid X0 X1 (k6\_euclid X0 X1) = k5\_euclid X0))) \end{aligned} \quad (2)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (3)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (m2\_finseq\_2 (k5\_euclid X0) k1\_numbers (k1\_euclid X0)) \quad (5)$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \quad (6)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ & X1 k1\_numbers (k1\_euclid X0)) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 k1\_numbers \\ & (k1\_euclid X0)) \Rightarrow ((X1 = X2) \Leftrightarrow (k8\_euclid X0 X1 X2 = k5\_euclid X0)))) \end{aligned}$$