

# t101\_euclidp

(TMd7SF8i5nfiV5iBxzZXShzmonnVohWZyP7)

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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  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_euclidp : \iota \Rightarrow \iota$  be given. Let  $k5\_euclidp : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_euclid\_4 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_euclidp : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k2\_euclid\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r3\_euclidp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_euclidp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(m2\_finseq\_2 X1 k1\_numbers \\ & (k1\_euclid X0)) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 k1\_numbers (k1\_euclid \\ & X0)) \Rightarrow ((X1 \in k2\_euclid\_4 X0 X1 X2) \wedge (X2 \in k2\_euclid\_4 X0 X1 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ & X1 k1\_numbers (k1\_euclid X0)) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 k1\_numbers \\ & (k1\_euclid X0)) \Rightarrow (\forall X3.(m2\_finseq\_2 X3 k1\_numbers (k1\_euclid \\ & X0)) \Rightarrow (\forall X4.(m2\_subset\_1 X4 (k1\_zfmisc\_1 (k1\_euclid X0)) \\ & (k5\_euclidp X0)) \Rightarrow (((X1 \in X4) \wedge ((X2 \in X4) \wedge ((X3 \in X4) \wedge (r3\_euclidp \\ & X0 (k8\_euclid X0 X2 X1) (k8\_euclid X0 X3 X1)))))) \Rightarrow (X4 = k4\_euclidp \\ & X0 X1 X2 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ & X1 k1\_numbers (k1\_euclid X0)) \Rightarrow (\forall X2.(m2\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k1\_euclid X0)) (k1\_euclidp X0)) \Rightarrow (\neg(\neg X1 \in X2) \wedge ((v1\_euclid\_4 \\ & X2 X0) \wedge (\forall X3.(m2\_finseq\_2 X3 k1\_numbers (k1\_euclid X0)) \Rightarrow \\ & (\forall X4.(m2\_finseq\_2 X4 k1\_numbers (k1\_euclid X0)) \Rightarrow (\neg(X2 = \\ & k2\_euclid\_4 X0 X3 X4) \wedge (r3\_euclidp X0 (k8\_euclid X0 X1 X3) (k8\_euclid \\ & X0 X4 X3)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (7)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\neg v1\_xboole\_0 (k5\_euclidp X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 X2 X0 X1) \Rightarrow (m1\_subset\_1 X2 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (m1\_subset\_1 (k5\_euclidp X0) (k1\_zfmisc\_1 (k1\_zfmisc\_1 (k1\_euclid X0)))) \quad (11)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Leftrightarrow (\forall X1.\neg X1 \in X0) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_euclid X0))) \Rightarrow ((v1\_euclidp X1 X0) \Leftrightarrow (\exists X2. \\ (m2\_finseq\_2 X2 k1\_numbers (k1\_euclid X0)) \wedge (\exists X3.(m2\_finseq\_2 X3 k1\_numbers (k1\_euclid X0)) \wedge (\exists X4.(m2\_finseq\_2 X4 k1\_numbers \\ (k1\_euclid X0)) \wedge (r3\_euclidp X0 (k8\_euclid X0 X3 X2) (k8\_euclid X0 X4 X2)) \wedge (X1 = k4\_euclidp X0 X2 X3 X4)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (14)$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \quad (15)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ & X1 k1\_numbers (k1\_euclid X0)) \Rightarrow (\forall X2.(m2\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k1\_euclid X0)) (k1\_euclidlp X0)) \Rightarrow (\forall X3.(m2\_subset\_1 X3 \\ & (k1\_zfmisc\_1 (k1\_euclid X0)) (k5\_euclidlp X0)) \Rightarrow (((X1 \in X3) \wedge (( \\ & r1\_tarski X2 X3) \wedge (v1\_euclid\_4 X2 X0))) \Rightarrow ((X1 \in X2) \vee (v1\_euclidlp \\ & X3 X0)))))) \end{aligned}$$