

# t6\_euclidlp (TMaU- RZHqU31MsAsxxxD2Cc3UgdSyxeMqVx1)

October 27, 2020

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  $k7\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k9\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k5\_euclid : \iota \Rightarrow \iota$  be given. Let  $k6\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k45\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ & X1 k1\_numbers (k1\_euclid X0)) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 k1\_numbers \\ & (k1\_euclid X0)) \Rightarrow (\forall X3.(m2\_finseq\_2 X3 k1\_numbers (k1\_euclid \\ & X0)) \Rightarrow (k8\_euclid X0 X1 (k8\_euclid X0 X2 X3) = k7\_euclid X0 (k8\_euclid \\ & X0 X1 X2) X3)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(m2\_finseq\_2 X1 k1\_numbers \\ & (k1\_euclid X0)) \Rightarrow ((k9\_euclid X0 X1 np\_1 = X1) \wedge (k9\_euclid X0 X1 k6\_numbers = \\ & k5\_euclid X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ & X1 k1\_numbers (k1\_euclid X0)) \Rightarrow ((k8\_euclid X0 X1 X1 = k5\_euclid X0) \wedge \\ & (k7\_euclid X0 X1 (k6\_euclid X0 X1) = k5\_euclid X0))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers \\ (k1\_euclid\ X0)) \Rightarrow ((k7\_euclid\ X0\ (k9\_euclid\ X0\ X1\ k6\_numbers)\ X1 = \\ X1) \wedge (k7\_euclid\ X0\ X1\ (k5\_euclid\ X0) = X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0) \Rightarrow (\forall X2.(m2\_finseq\_2\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0) \wedge ((m1\_subset\_1 \\ X1\ (k1\_euclid\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_euclid\ X0)))) \Rightarrow (k8\_euclid \\ X0\ X1\ X2 = k45\_valued\_1\ X1\ X2) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0) \wedge ((m1\_subset\_1 \\ X1\ (k1\_euclid\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_euclid\ X0)))) \Rightarrow (k7\_euclid \\ X0\ X1\ X2 = k1\_valued\_1\ X1\ X2) \end{aligned} \quad (8)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (9)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (10)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (m1\_finseq\_2\ (k1\_euclid\ X0)\ k1\_numbers) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0) \wedge ((m1\_subset\_1 \\ X1\ (k1\_euclid\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_euclid\ X0)))) \Rightarrow (k7\_euclid \\ X0\ X1\ X2 = k7\_euclid\ X0\ X2\ X1) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1) \Rightarrow (v7\_ordinal1\ X0) \quad (13)$$

**Theorem 1**

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