

# t65\_euclidlp

(TMGo7RXtRtXUhVtdBtTWF3F33FMejXvmvYx)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  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  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $k1\_euclidlp : \iota \Rightarrow \iota$  be given. Let  $v1\_euclid\_4 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r5\_euclidlp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k8\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_euclid : \iota \Rightarrow \iota$  be given. Let  $k2\_euclid\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r3\_euclidlp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_euclidlp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_euclidlp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  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.

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

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ & X1 k1\_numbers (k1\_euclid X0)) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 k1\_numbers \\ & (k1\_euclid X0)) \Rightarrow (\forall X3.(m2\_subset\_1 X3 (k1\_zfmisc\_1 (k1\_euclid \\ & X0)) (k1\_euclidlp X0)) \Rightarrow (((X1 \in X3) \wedge (X2 \in X3)) \Rightarrow ((X1 = X2) \vee ((k2\_euclid\_4 \\ & X0 X1 X2 = X3) \wedge (v1\_euclid\_4 X3 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k1\_euclid X0)) (k1\_euclidlp X0)) \Rightarrow (\exists X2. \\ & (m2\_finseq\_2 X2 k1\_numbers (k1\_euclid X0)) \wedge (X2 \in X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ X1 k1\_numbers (k1\_euclid X0)) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 k1\_numbers \\ (k1\_euclid X0)) \Rightarrow (\neg(r3\_euclidlp X0 X1 X2) \wedge (X1 = X2)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1\_subset\_1 X0 k5\_numbers) \wedge \\ ((m1\_subset\_1 X1 (k1\_euclid X0)) \wedge (m1\_subset\_1 X2 (k1\_euclid X0)))) \Rightarrow \\ ((r2\_euclidlp X0 X1 X2) \Leftrightarrow (r1\_euclidlp X0 X1 X2)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2.(m2\_finseq\_2 \\ X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (7)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ X1 k1\_numbers (k1\_euclid X0)) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 k1\_numbers \\ (k1\_euclid X0)) \Rightarrow (\neg(\neg r3\_euclidlp X0 X1 X2) \wedge ((X1 \neq k5\_euclid X0) \wedge \\ ((X2 \neq k5\_euclid X0) \wedge (\neg r2\_euclidlp X0 X1 X2)))))) \end{aligned} \quad (9)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7\_ordinal1 X0) \wedge ((m1\_subset\_1 \\ X1 (k1\_euclid X0)) \wedge (m1\_subset\_1 X2 (k1\_euclid X0)))) \Rightarrow (m2\_finseq\_2 \\ (k8\_euclid X0 X1 X2) k1\_numbers (k1\_euclid X0)) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (m1\_finseq\_2 (k1\_euclid X0) k1\_numbers) \quad (12)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_subset\_1 \\
& X1 (k1\_zfmisc\_1 (k1\_euclid X0)) (k1\_euclidlp X0)) \Rightarrow (\forall X2. \\
& (m2\_subset\_1 X2 (k1\_zfmisc\_1 (k1\_euclid X0)) (k1\_euclidlp X0)) \Rightarrow \\
& ((r5\_euclidlp X0 X1 X2) \Leftrightarrow (\exists X3.(m2\_finseq\_2 X3 k1\_numbers \\
& (k1\_euclid X0)) \wedge (\exists X4.(m2\_finseq\_2 X4 k1\_numbers (k1\_euclid \\
& X0)) \wedge (\exists X5.(m2\_finseq\_2 X5 k1\_numbers (k1\_euclid X0)) \wedge \\
& (\exists X6.(m2\_finseq\_2 X6 k1\_numbers (k1\_euclid X0)) \wedge ((X1 = \\
& k2\_euclid\_4 X0 X3 X4) \wedge ((X2 = k2\_euclid\_4 X0 X5 X6) \wedge (r2\_euclidlp \\
& X0 (k8\_euclid X0 X4 X3) (k8\_euclid X0 X6 X5))))))))))
\end{aligned} \tag{13}$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \tag{14}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_subset\_1 \\
& X1 (k1\_zfmisc\_1 (k1\_euclid X0)) (k1\_euclidlp X0)) \Rightarrow (\forall X2. \\
& (m2\_subset\_1 X2 (k1\_zfmisc\_1 (k1\_euclid X0)) (k1\_euclidlp X0)) \Rightarrow \\
& (((v1\_euclid\_4 X1 X0) \wedge (X1 = X2)) \Rightarrow (r5\_euclidlp X0 X1 X2)))
\end{aligned}$$