

# t22\_euclidlp (TMP- bLa3zLGF8PFt4X4WUW26MqFyYQotHvFN)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $k9\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  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  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k1\_numbers) \Rightarrow (\forall X2.(v7\_ordinal1 X2) \Rightarrow (\forall X3.(m2\_finseq\_2 \\ & X3 k1\_numbers (k1\_euclid X2)) \Rightarrow (k9\_euclid X2 X3 (k8\_real\_1 X0 X1) = \\ & k9\_euclid X2 (k9\_euclid X2 X3 X1) X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k5\_numbers) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 k1\_numbers (k1\_euclid \\ & X1)) \Rightarrow (\forall X3.(m2\_finseq\_2 X3 k1\_numbers (k1\_euclid X1)) \Rightarrow \\ & (\forall X4.(m2\_finseq\_2 X4 k1\_numbers (k1\_euclid X1)) \Rightarrow (k9\_euclid \\ & X1 (k7\_euclid X1 (k7\_euclid X1 X2 X3) X4) X0 = k7\_euclid X1 (k7\_euclid \\ & X1 (k9\_euclid X1 X2 X0) (k9\_euclid X1 X3 X0)) (k9\_euclid X1 X4 X0)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \tag{3}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{4}$$

Assume the following.

$$v6\_membered k4\_ordinal1 \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X0)\wedge((m1\_subset\_1 X1 (k1\_euclid X0))\wedge(v1\_xreal\_0 X2)))\Rightarrow(m2\_finseq\_2 (k9\_euclid X0 X1 X2) k1\_numbers (k1\_euclid X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(m1\_finseq\_2 (k1\_euclid X0) k1\_numbers) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(v6\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(v7\_ordinal1 X1)) \quad (9)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 X1 k1\_numbers)\Rightarrow(\forall X2.(m1\_subset\_1 X2 k1\_numbers)\Rightarrow(\forall X3. \\ &(m1\_subset\_1 X3 k1\_numbers)\Rightarrow(\forall X4.(m1\_subset\_1 X4 k5\_numbers)\Rightarrow \\ &(\forall X5.(m2\_finseq\_2 X5 k1\_numbers (k1\_euclid X4))\Rightarrow(\forall X6. \\ &(m2\_finseq\_2 X6 k1\_numbers (k1\_euclid X4))\Rightarrow(\forall X7.(m2\_finseq\_2 \\ &X7 k1\_numbers (k1\_euclid X4))\Rightarrow(k9\_euclid X4 (k7\_euclid X4 (k7\_euclid \\ &X4 (k9\_euclid X4 X5 X1) (k9\_euclid X4 X6 X2)) (k9\_euclid X4 X7 X3)) \\ &X0 = k7\_euclid X4 (k7\_euclid X4 (k9\_euclid X4 X5 (k8\_real\_1 X0 X1)) \\ &(k9\_euclid X4 X6 (k8\_real\_1 X0 X2))) (k9\_euclid X4 X7 (k8\_real\_1 \\ &X0 X3)))))))))) \end{aligned}$$