

t25\_euclid (TM-  
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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $k13\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k3\_euclid : \iota \Rightarrow \iota$  be given. Let  $k54\_valued\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k39\_valued\_1 : \iota \Rightarrow \iota$  be given. Let  $k12\_rvsum\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2. (m2\_finseq\_2 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (2)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finseq\_1 X0) \wedge (v3\_valued\_0 X0)))) \Rightarrow (k3\_euclid X0 = k54\_valued\_1 X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v7\_ordinal1 X0) \wedge (m1\_subset\_1 X1 (k4\_finseq\_2 X0 k1\_numbers))) \Rightarrow (k13\_rvsum\_1 X0 X1 = k39\_valued\_1 X1) \quad (4)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow (k12\_rvsum\_1 X0 = k39\_valued\_1 X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((v7\_ordinal1 X0) \wedge (m1\_subset\_1 X1 (k1\_euclid X0))) \Rightarrow (k11\_euclid X0 X1 = k39\_valued\_1 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0)\wedge(m1\_subset\_1 X1 (k1\_euclid X0)))\Rightarrow(k10\_euclid X0 X1 = k54\_valued\_1 X1) \quad (7)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v1\_finseq\_1 X0)\wedge(v3\_valued\_0 X0))))\Rightarrow(k12\_rvsum\_1 (k3\_euclid X0) = k12\_rvsum\_1 X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0)\Rightarrow(\forall X2.(m2\_finseq\_2 X2 X0 X1)\Rightarrow(m2\_finseq\_1 X2 X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow((v1\_funct\_1 X1)\wedge((v1\_finseq\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(v7\_ordinal1 X0)\Rightarrow(m1\_finseq\_2 (k4\_finseq\_2 X0 X1) X1) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0)\wedge(m1\_subset\_1 X1 (k1\_euclid X0)))\Rightarrow(m2\_finseq\_2 (k10\_euclid X0 X1) k1\_numbers (k4\_finseq\_2 X0 k1\_numbers)) \quad (13)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(k1\_euclid X0 = k4\_finseq\_2 X0 k1\_numbers) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow(v5\_relat\_1 X1 X0) \quad (15)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v5\_relat\_1 X0 k1\_numbers))\Rightarrow((v1\_relat\_1 X0)\wedge(v3\_valued\_0 X0)) \quad (16)$$

**Theorem 1**

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(\forall X1.(m2\_finseq\_2 X1 k1\_numbers (k1\_euclid X0))\Rightarrow(k13\_rvsum\_1 X0 (k10\_euclid X0 X1) = k11\_euclid X0 X1))$$