

## t18\_euclid\_4

(TMbs34sZAHxjUxx8ZnzYmKayxAt9QZC7LPT)

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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  $k23\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_euclid : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k14\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_euclid : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k22\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k18\_rvsum\_1 : \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(m2\_finseq\_2 X1 k1\_numbers \\ (k4\_finseq\_2 X0 k1\_numbers)) \Rightarrow (k14\_rvsum\_1 X1 (k5\_euclid X0) = \\ k5\_euclid X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(m2\_finseq\_2 X1 k1\_numbers \\ (k1\_euclid X0)) \Rightarrow ((k23\_rvsum\_1 X1 X1 = k6\_numbers) \Leftrightarrow (X1 = k5\_euclid \\ X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (3)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (4)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (k5\_euclid X0 = k4\_euclid X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v3\_valued\_0 X0)\wedge(v1\_finseq\_1 X0))))\wedge((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge((v3\_valued\_0 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow(k23\_rvsum\_1 X0 X1 = k22\_rvsum\_1 X0 X1)) \quad (6)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow((v1\_funct\_1 X1)\wedge((v1\_finseq\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))) \quad (9)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(m2\_finseq\_2 (k5\_euclid X0) k1\_numbers (k1\_euclid X0)) \quad (10)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow((v1\_relat\_1 (k4\_euclid X0))\wedge((v1\_funct\_1 (k4\_euclid X0))\wedge((v1\_finseq\_1 (k4\_euclid X0))\wedge(v3\_valued\_0 (k4\_euclid X0)))))) \quad (11)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(k1\_euclid X0 = k4\_finseq\_2 X0 k1\_numbers) \quad (13)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v3\_valued\_0 X0)\wedge(v1\_finseq\_1 X0))))\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge((v3\_valued\_0 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow(k22\_rvsum\_1 X0 X1 = k18\_rvsum\_1 (k14\_rvsum\_1 X0 X1))) \quad (14)$$

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**

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(\forall X1.(m2\_finseq\_2 X1 k1\_numbers (k1\_euclid X0))\Rightarrow(k23\_rvsum\_1 X1 (k5\_euclid X0) = k6\_numbers))$$