

## t4\_euclid\_2

(TMdM2sQ5XEKPi4XaFFqpQ58mfBRpoby4M2W)

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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  $k5\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k12\_euclid : \iota \Rightarrow \iota$  be given. Let  $k23\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k7\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k22\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k14\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_rvsum\_1 : \iota \Rightarrow \iota$  be given. Let  $k39\_valued\_1 : \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k18\_rvsum\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow (r1\_xxreal\_0 k6\_numbers (k23\_rvsum\_1 X0 X0)) \quad (1)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (k7\_square\_1 X0 = k6\_square\_1 X0) \quad (2)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (k5\_square\_1 X0 = k3\_square\_1 X0) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0)))) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge ((v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1)))))) \Rightarrow (k23\_rvsum\_1 X0 X1 = k22\_rvsum\_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v3\_valued\_0 X0)\wedge(v1\_finseq\_1 X0))))\wedge((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge((v3\_valued\_0 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow(k14\_rvsum\_1 X0 X1 = k18\_valued\_1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v3\_valued\_0 X0)\wedge(v1\_finseq\_1 X0))))\Rightarrow(k12\_rvsum\_1 X0 = k39\_valued\_1 X0) \quad (6)$$

Assume the following.

$$v3\_membered k1\_numbers \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v3\_valued\_0 X0)\wedge(v1\_finseq\_1 X0))))\wedge((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge((v3\_valued\_0 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow(m1\_subset\_1 (k23\_rvsum\_1 X0 X1) k1\_numbers) \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v1\_finseq\_1 X0)\wedge(v3\_valued\_0 X0))))\Rightarrow(m1\_subset\_1 (k12\_euclid X0) k1\_numbers) \quad (9)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_valued\_0 X0)))\Rightarrow(k39\_valued\_1 X0 = k18\_valued\_1 X0 X0) \quad (10)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v1\_finseq\_1 X0)\wedge(v3\_valued\_0 X0))))\Rightarrow(k12\_euclid X0 = k7\_square\_1 (k18\_rvsum\_1 (k12\_rvsum\_1 X0))) \quad (11)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow((r1\_xxreal\_0 k6\_numbers X0)\Rightarrow(\forall X1.(v1\_xreal\_0 X1)\Rightarrow((X1 = k6\_square\_1 X0)\Leftrightarrow((r1\_xxreal\_0 k6\_numbers X1)\wedge(k3\_square\_1 X1 = X0)))) \quad (12)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v3\_valued\_0 X0)\wedge(v1\_finseq\_1 X0))))\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge((v3\_valued\_0 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow(k22\_rvsum\_1 X0 X1 = k18\_rvsum\_1 (k14\_rvsum\_1 X0 X1)) \quad (13)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v3\_valued\_0 X0)) \Rightarrow ((v1\_relat\_1 X0) \wedge (v1\_valued\_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(v3\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_xreal\_0 X1)) \quad (15)$$

**Theorem 1**

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finseq\_1 X0) \wedge (v3\_valued\_0 X0)))) \Rightarrow (k5\_square\_1 (k12\_euclid X0) = k23\_rvsum\_1 X0 X0)$$