

t5\_euclid\_2 (TMKYSEn-  
FvuZNV2qM8dwPN3rB9CSdkTU3h24)

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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  $k12\_euclid : \iota \Rightarrow \iota$  be given. Let  $k7\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k23\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k18\_rvsum\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0) \wedge (v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0))) \wedge ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1) \wedge (v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow (k23\_rvsum\_1 X0 X1 = k22\_rvsum\_1 X0 X1) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0) \wedge (v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0))) \wedge ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1) \wedge (v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow (k14\_rvsum\_1 X0 X1 = k18\_valued\_1 X0 X1) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0) \wedge (v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0)) \Rightarrow (k12\_rvsum\_1 X0 = k39\_valued\_1 X0) \tag{3}$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0)) \Rightarrow (k39\_valued\_1 X0 = k18\_valued\_1 X0 X0) \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0) \wedge (v3\_valued\_0 X0)) \Rightarrow (k12\_euclid X0 = k7\_square\_1 (k18\_rvsum\_1 (k12\_rvsum\_1 X0))) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_valued\_0 \\ X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 \\ X1) \wedge ((v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow (k22\_rsum\_1 X0 X1 = \\ k18\_rsum\_1 (k14\_rsum\_1 X0 X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v3\_valued\_0 X0)) \Rightarrow ((v1\_relat\_1 \\ X0) \wedge (v1\_valued\_0 X0)) \quad (7)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finseq\_1 \\ X0) \wedge (v3\_valued\_0 X0)))) \Rightarrow (k12\_euclid X0 = k7\_square\_1 (k23\_rsum\_1 \\ X0 X0)) \end{aligned}$$