

## t21\_euclid\_2

(TMMaYsdoUEBiJBBad86duZ9BqntvZVui5Rc)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $k23\_rsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_binop\_2 : \iota \Rightarrow \iota$  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  $k30\_valued\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_rsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k6\_rsum\_1 : \iota \Rightarrow \iota$  be given. Let  $v3\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v4\_funct\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ (k15\_euclid X0))) \Rightarrow (\forall X2.((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 \\ X2) \wedge (v3\_valued\_0 X2))) \Rightarrow ((X1 = X2) \Rightarrow (k4\_algstr\_0 (k15\_euclid X0) \\ X1 = k30\_valued\_1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (u1\_struct\_0 (k15\_euclid X0) = k1\_euclid X0) \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(m2\_finseq\_2 X1 k1\_numbers \\ (k4\_finseq\_2 X0 k1\_numbers)) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 k1\_numbers \\ (k4\_finseq\_2 X0 k1\_numbers)) \Rightarrow (k23\_rsum\_1 (k7\_rsum\_1 X0 X1) \\ X2 = k7\_binop\_2 (k23\_rsum\_1 X1 X2)))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (m1\_subset\_1 X1 (k4\_finseq\_2 X0 k1\_numbers))) \Rightarrow (k7\_rsum\_1 X0 X1 = k30\_valued\_1 X1) \tag{5}$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow (k6\_rvsum\_1 X0 = k30\_valued\_1 X0) \quad (6)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v3\_finseq\_1 (k1\_euclid X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (m1\_finseq\_2 (k1\_euclid X0) k1\_numbers) \quad (8)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (k1\_euclid X0 = k4\_finseq\_2 X0 k1\_numbers) \quad (9)$$

Assume the following.

$$\forall X0.(v3\_finseq\_1 X0) \Rightarrow (v4\_funct\_1 X0) \quad (10)$$

Assume the following.

$$\forall X0.(v4\_funct\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1))) \quad (11)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow (v3\_valued\_0 X1)) \quad (12)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow (v1\_finseq\_1 X1)) \quad (13)$$

**Theorem 1**

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow (k23\_rvsum\_1 (k4\_algstr\_0 (k15\_euclid X0) X1) X2 = k7\_binop\_2 (k23\_rvsum\_1 X1 X2))))))$$