

## t7\_euclid\_7

(TMVYqzE67d6DTXy6c5uLMqE7urP4RbCENg5)

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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  $v5\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finseq\_1 \\ & X0) \wedge (v3\_valued\_0 X0)))) \Rightarrow ((v5\_valued\_0 X0) \Rightarrow (\forall X1.(v7\_ordinal1 \\ & X1) \Rightarrow (\forall X2.(v7\_ordinal1 X2) \Rightarrow (\neg(\neg r1\_xxreal\_0 X2 X1) \wedge ((r1\_xxreal\_0 \\ & np\_1 X1) \wedge ((r1\_xxreal\_0 X2 (k3\_finseq\_1 X0)) \wedge (r1\_xxreal\_0 (k1\_seq\_1 \\ & X0 X2) (k1\_seq\_1 X0 X1)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X0)) \Rightarrow (X0 = X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v3\_valued\_0 X0))) \Rightarrow (m1\_subset\_1 (k1\_seq\_1 X0 X1) k1\_numbers) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ((r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0)) \tag{4}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \tag{5}$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xxreal\_0 X0) \tag{6}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \tag{7}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finseq\_1 \\ & X0) \wedge (v3\_valued\_0 X0)))) \Rightarrow ((v5\_valued\_0 X0) \Rightarrow (\forall X1.(v7\_ordinal1 \\ & X1) \Rightarrow (\forall X2.(v7\_ordinal1 X2) \Rightarrow (((r1\_xxreal\_0 X1 X2) \wedge ((r1\_xxreal\_0 \\ & np\_1 X1) \wedge (r1\_xxreal\_0 X2 (k3\_finseq\_1 X0)))) \Rightarrow (r1\_xxreal\_0 ( \\ & k1\_seq\_1 X0 X1) (k1\_seq\_1 X0 X2)))))) \end{aligned}$$