

# t38\_euclid\_8 (TMWTQPagMmxbdcrYarYcD- FKAcK9kWPiRBQu)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k9\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_euclid\_8 : \iota$  be given. Let  $k11\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_euclid\_8 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k4\_euclid\_8 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  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  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1\_xreal\_0 X1) \Rightarrow (\forall X2. ((v1\_relat\_1 \\ & X2) \wedge ((v1\_funct\_1 X2) \wedge ((v3\_valued\_0 X2) \wedge (v1\_finseq\_1 X2)))) \Rightarrow \\ & (k1\_seq\_1 (k24\_valued\_1 X2 X1) X0 = k11\_binop\_2 X1 (k1\_seq\_1 X2 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m2\_finseq\_2 X0 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (X0 = \\ & k7\_euclid np\_3 (k7\_euclid np\_3 (k9\_euclid np\_3 k2\_euclid\_8 \\ & (k1\_seq\_1 X0 np\_1)) (k9\_euclid np\_3 k3\_euclid\_8 (k1\_seq\_1 X0 \\ & np\_2))) (k9\_euclid np\_3 k4\_euclid\_8 (k1\_seq\_1 X0 np\_3))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_3) \wedge (m2\_subset\_1 np\_3 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_3 k5\_numbers) \wedge (m1\_subset\_1 np\_3 k1\_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2. (m2\_finseq\_2 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0)\wedge((m1\_subset\_1\ X1\ (k1\_euclid\ X0))\wedge(v1\_xreal\_0\ X2)))\Rightarrow(k9\_euclid\ X0\ X1\ X2 = k24\_valued\_1\ X1\ X2) \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1\ (k2\_zfmisc\_1\ X0\ X1) \quad (7)$$

Assume the following.

$$v3\_membered\ k1\_numbers \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ X0\ X1)\Rightarrow(m2\_finseq\_1\ X2\ X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0)\Rightarrow((v1\_funct\_1\ X1)\wedge((v1\_finseq\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ X0)))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0)\wedge((m1\_subset\_1\ X1\ (k1\_euclid\ X0))\wedge(v1\_xreal\_0\ X2)))\Rightarrow(m2\_finseq\_2\ (k9\_euclid\ X0\ X1\ X2)\ k1\_numbers\ (k1\_euclid\ X0)) \quad (11)$$

Assume the following.

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

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \quad (13)$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_relat\_1\ X1)) \quad (14)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v3\_valued\_0\ X2)) \quad (16)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ & X1 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (k9\_euclid np\_3 X1 X0 = k7\_euclid \\ & np\_3 (k7\_euclid np\_3 (k9\_euclid np\_3 k2\_euclid\_8 (k11\_binop\_2 \\ & X0 (k1\_seq\_1 X1 np\_1)))) (k9\_euclid np\_3 k3\_euclid\_8 (k11\_binop\_2 \\ & X0 (k1\_seq\_1 X1 np\_2)))) (k9\_euclid np\_3 k4\_euclid\_8 (k11\_binop\_2 \\ & X0 (k1\_seq\_1 X1 np\_3)))))) \end{aligned}$$