

t49\_euclid\_8 (TMV-  
LyP71CvfQsFLAwUFCnJy992GQFpe4sBY)

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Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_euclid\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_euclid\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_relat\_1 X3) \wedge \\ & ((v1\_funct\_1 X3) \wedge (v1\_finseq\_1 X3))) \Rightarrow ((X3 = k11\_finseq\_1 X0 X1 \\ & X2) \Leftrightarrow ((k3\_finseq\_1 X3 = np\_3) \wedge ((k1\_funct\_1 X3 np\_1 = X0) \wedge ((k1\_funct\_1 \\ & X3 np\_2 = X1) \wedge (k1\_funct\_1 X3 np\_3 = X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (m2\_finseq\_2 X0 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (X0 = k1\_euclid\_8 (k1\_seq\_1 X0 np\_1) (k1\_seq\_1 X0 np\_2) (k1\_seq\_1 X0 np\_3)) \quad (2)$$

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.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (4)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_xreal\_0 X0)\wedge((v1\_xreal\_0 X1)\wedge(v1\_xreal\_0 X2)))\Rightarrow(k1\_euclid\_8 X0 X1 X2 = k11\_finseq\_1 X0 X1 X2) \quad (6)$$

Assume the following.

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

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (8)$$

Assume the following.

$$v3\_membered k1\_numbers \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0)\Rightarrow(\forall X2.(m2\_finseq\_2 X2 X0 X1)\Rightarrow(m2\_finseq\_1 X2 X0)) \quad (10)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_funct\_1 X0)\wedge(m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers))))\wedge(((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers))))\wedge(((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers))))))\Rightarrow((v1\_funct\_1 (k6\_euclid\_8 X0 X1 X2))\wedge((v1\_funct\_2 (k6\_euclid\_8 X0 X1 X2) k1\_numbers (k1\_euclid np\_3))\wedge(m1\_subset\_1 (k6\_euclid\_8 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers (k1\_euclid np\_3)))))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\Rightarrow(m1\_subset\_1 (k1\_seq\_1 X0 X1) k1\_numbers) \quad (13)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(m1\_finseq\_2 (k1\_euclid X0) k1\_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& \quad k1\_numbers k1\_numbers)))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge (m1\_subset\_1 \\
& \quad X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow (\forall X2. \\
& ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers \\
& \quad k1\_numbers)))) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 \\
& \quad k1\_numbers (k1\_euclid np\_3)) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 ( \\
& \quad k2\_zfmisc\_1 k1\_numbers (k1\_euclid np\_3)))))) \Rightarrow ((X3 = k6\_euclid\_8 \\
& \quad X0 X1 X2) \Leftrightarrow (\forall X4.(m1\_subset\_1 X4 k1\_numbers) \Rightarrow (k3\_funct\_2 \\
& \quad k1\_numbers (k1\_euclid np\_3) X3 X4 = k1\_euclid\_8 (k1\_seq\_1 X0 X4) \\
& \quad (k1\_seq\_1 X1 X4) (k1\_seq\_1 X2 X4))))))
\end{aligned} \tag{15}$$

Assume the following.

$$\forall X0. \forall X1.(m1\_finseq\_1 X1 X0) \Rightarrow (v5\_relat\_1 X1 X0) \tag{16}$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v5\_relat\_1 X0 k1\_numbers)) \Rightarrow ((v1\_relat\_1 X0) \wedge (v3\_valued\_0 X0)) \tag{17}$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_relat\_1 X1)) \tag{18}$$

Assume the following.

$$\forall X0. \forall X1.(v3\_membered X1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v3\_valued\_0 X2)) \tag{19}$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \tag{20}$$

Assume the following.

$$\forall X0.(v3\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_xreal\_0 X1)) \tag{21}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(m2\_finseq\_2 X0 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (\forall X1. \\
& ((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers \\
& \quad k1\_numbers)))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 \\
& \quad (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow (\forall X3. \\
& ((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers \\
& \quad k1\_numbers)))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 k1\_numbers) \Rightarrow ((X0 = \\
& \quad k3\_funct\_2 k1\_numbers (k1\_euclid np\_3) (k6\_euclid\_8 X1 X2 X3) \\
& \quad X4) \Leftrightarrow ((k1\_seq\_1 X0 np\_1 = k1\_seq\_1 X1 X4) \wedge ((k1\_seq\_1 X0 np\_2 = k1\_seq\_1 \\
& \quad X2 X4) \wedge (k1\_seq\_1 X0 np\_3 = k1\_seq\_1 X3 X4))))))
\end{aligned}$$