

t88\_euclid\_8 (TMM-  
pQhKW4jvKaS74GK5xK2sp1s2tXGcunXC)

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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  $k5\_euclid\_8 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2\_finseq\_2 X0 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (\forall X1. \\ & (m2\_finseq\_2 X1 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (\forall X2.(m2\_finseq\_2 \\ & X2 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (k5\_euclid\_8 (k7\_euclid np\_3 \\ & X0 X1) X2 = k7\_euclid np\_3 (k5\_euclid\_8 X0 X2) (k5\_euclid\_8 X1 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_finseq\_2 X0 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (\forall X1. \\ & (m2\_finseq\_2 X1 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (\forall X2.(m2\_finseq\_2 \\ & X2 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (k5\_euclid\_8 X0 (k7\_euclid np\_3 \\ & X1 X2) = k7\_euclid np\_3 (k5\_euclid\_8 X0 X1) (k5\_euclid\_8 X0 X2)))) \end{aligned} \quad (2)$$

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.

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

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers \\ (k1\_euclid\ X0)) \Rightarrow (\forall X2.(m2\_finseq\_2\ X2\ k1\_numbers\ (k1\_euclid \\ X0)) \Rightarrow (\forall X3.(m2\_finseq\_2\ X3\ k1\_numbers\ (k1\_euclid\ X0)) \Rightarrow \\ (k7\_euclid\ X0\ X1\ (k7\_euclid\ X0\ X2\ X3) = k7\_euclid\ X0\ (k7\_euclid\ X0 \\ X1\ X2)\ X3)))) \end{aligned} \quad (6)$$

Assume the following.

$$v6\_membered\ k4\_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0) \wedge ((m1\_subset\_1 \\ X1\ (k1\_euclid\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_euclid\ X0)))) \Rightarrow (m2\_finseq\_2 \\ (k7\_euclid\ X0\ X1\ X2)\ k1\_numbers\ (k1\_euclid\ X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((m1\_subset\_1\ X0\ (k1\_euclid\ np\_3)) \wedge (m1\_subset\_1 \\ X1\ (k1\_euclid\ np\_3))) \Rightarrow (m2\_finseq\_2\ (k5\_euclid\_8\ X0\ X1)\ k1\_numbers \\ (k1\_euclid\ np\_3)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (m1\_finseq\_2\ (k1\_euclid\ X0)\ k1\_numbers) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X0) \wedge ((m1\_subset\_1 \\ X1\ (k1\_euclid\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_euclid\ X0)))) \Rightarrow (k7\_euclid \\ X0\ X1\ X2 = k7\_euclid\ X0\ X2\ X1) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(v6\_membered\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (v7\_ordinal1\ X1)) \quad (12)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(m2\_finseq\_2\ X0\ k1\_numbers\ (k1\_euclid\ np\_3)) \Rightarrow (\forall X1. \\ (m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ np\_3)) \Rightarrow (\forall X2.(m2\_finseq\_2 \\ X2\ k1\_numbers\ (k1\_euclid\ np\_3)) \Rightarrow (\forall X3.(m2\_finseq\_2\ X3 \\ k1\_numbers\ (k1\_euclid\ np\_3)) \Rightarrow (k5\_euclid\_8\ (k7\_euclid\ np\_3 \\ X0\ X1)\ (k7\_euclid\ np\_3\ X2\ X3) = k7\_euclid\ np\_3\ (k7\_euclid\ np\_3 \\ (k7\_euclid\ np\_3\ (k5\_euclid\_8\ X0\ X2)\ (k5\_euclid\_8\ X0\ X3))\ (k5\_euclid\_8 \\ X1\ X2))\ (k5\_euclid\_8\ X1\ X3)))))) \end{aligned}$$