

# t47\_euclid\_8 (TMbxwr- Rnv3oFiSHdCjfhLUNwKYWuNATabEs)

October 27, 2020

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  $k7\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_euclid.8 : \iota$  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  $k9\_binop.2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_binop.2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k8\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k4\_ordinal1 : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset.1 X0 k5\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_2 \\ & X1 k1\_numbers (k1\_euclid X0)) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 k1\_numbers \\ & (k1\_euclid X0)) \Rightarrow (\forall X3.(m2\_finseq\_2 X3 k1\_numbers (k1\_euclid \\ & X0)) \Rightarrow ((X1 = k7\_euclid X0 X2 X3) \Leftrightarrow (X2 = k8\_euclid X0 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_finseq\_2 X0 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (\forall X1. \\ & (m2\_finseq\_2 X1 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (k8\_euclid np\_3 \\ & X0 X1 = k7\_euclid np\_3 (k7\_euclid np\_3 (k9\_euclid np\_3 k2\_euclid.8 \\ & (k10\_binop.2 (k1\_seq.1 X0 np\_1) (k1\_seq.1 X1 np\_1))) (k9\_euclid \\ & np\_3 k3\_euclid.8 (k10\_binop.2 (k1\_seq.1 X0 np\_2) (k1\_seq.1 X1 \\ & np\_2)))) (k9\_euclid np\_3 k4\_euclid.8 (k10\_binop.2 (k1\_seq.1 \\ & X0 np\_3) (k1\_seq.1 X1 np\_3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_finseq\_2 X0 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (\forall X1. \\ & (m2\_finseq\_2 X1 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (k7\_euclid np\_3 \\ & X0 X1 = k7\_euclid np\_3 (k7\_euclid np\_3 (k9\_euclid np\_3 k2\_euclid.8 \\ & (k9\_binop.2 (k1\_seq.1 X0 np\_1) (k1\_seq.1 X1 np\_1))) (k9\_euclid \\ & np\_3 k3\_euclid.8 (k9\_binop.2 (k1\_seq.1 X0 np\_2) (k1\_seq.1 X1 \\ & np\_2)))) (k9\_euclid np\_3 k4\_euclid.8 (k9\_binop.2 (k1\_seq.1 \\ & X0 np\_3) (k1\_seq.1 X1 np\_3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m2\_finseq\_2 X0 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (X0 = \\ k7\_euclid np\_3 (k7\_euclid np\_3 (k9\_euclid np\_3 k2\_euclid\_8 \\ (k1\_seq\_1 X0 np\_1)) (k9\_euclid np\_3 k3\_euclid\_8 (k1\_seq\_1 X0 \\ np\_2))) (k9\_euclid np\_3 k4\_euclid\_8 (k1\_seq\_1 X0 np\_3))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_3) \wedge (m2\_subset\_1 np\_3 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_3 k5\_numbers) \wedge (m1\_subset\_1 np\_3 k1\_numbers)) \end{aligned} \quad (5)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} \forall X0.(m2\_finseq\_2 X0 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (\forall X1. \\ (m2\_finseq\_2 X1 k1\_numbers (k1\_euclid np\_3)) \Rightarrow (\forall X2.(m2\_finseq\_2 \\ X2 k1\_numbers (k1\_euclid np\_3)) \Rightarrow ((k7\_euclid np\_3 (k7\_euclid \\ np\_3 (k9\_euclid np\_3 k2\_euclid\_8 (k1\_seq\_1 X0 np\_1)) (k9\_euclid \\ np\_3 k3\_euclid\_8 (k1\_seq\_1 X0 np\_2))) (k9\_euclid np\_3 k4\_euclid\_8 \\ (k1\_seq\_1 X0 np\_3)) = k7\_euclid np\_3 (k7\_euclid np\_3 (k9\_euclid \\ np\_3 k2\_euclid\_8 (k9\_binop\_2 (k1\_seq\_1 X1 np\_1) (k1\_seq\_1 X2 \\ np\_1))) (k9\_euclid np\_3 k3\_euclid\_8 (k9\_binop\_2 (k1\_seq\_1 X1 \\ np\_2) (k1\_seq\_1 X2 np\_2)))) (k9\_euclid np\_3 k4\_euclid\_8 (k9\_binop\_2 \\ (k1\_seq\_1 X1 np\_3) (k1\_seq\_1 X2 np\_3)))))) \Leftrightarrow (k7\_euclid np\_3 (k7\_euclid \\ np\_3 (k9\_euclid np\_3 k2\_euclid\_8 (k1\_seq\_1 X1 np\_1)) (k9\_euclid \\ np\_3 k3\_euclid\_8 (k1\_seq\_1 X1 np\_2))) (k9\_euclid np\_3 k4\_euclid\_8 \\ (k1\_seq\_1 X1 np\_3)) = k7\_euclid np\_3 (k7\_euclid np\_3 (k9\_euclid \\ np\_3 k2\_euclid\_8 (k10\_binop\_2 (k1\_seq\_1 X0 np\_1) (k1\_seq\_1 X2 \\ np\_1))) (k9\_euclid np\_3 k3\_euclid\_8 (k10\_binop\_2 (k1\_seq\_1 \\ X0 np\_2) (k1\_seq\_1 X2 np\_2)))) (k9\_euclid np\_3 k4\_euclid\_8 ( \\ k10\_binop\_2 (k1\_seq\_1 X0 np\_3) (k1\_seq\_1 X2 np\_3))))))))) \end{aligned}$$