

## l1\_euclid\_6

(TMFuMrzuaLX2tSADwG3XLZ2aVvpaTjgrZyj)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k12\_euclid : \iota \Rightarrow \iota$  be given. Let  $k5\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  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  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l1\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v5\_rltopsp1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0 \\ (k15\_euclid\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ ( \\ k15\_euclid\ X0))) \Rightarrow ((k5\_algstr\_0\ (k15\_euclid\ X0)\ X1\ X2 = k4\_struct\_0 \\ (k15\_euclid\ X0)) \Rightarrow (X1 = X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0 \\ (k15\_euclid\ X0))) \Rightarrow ((k12\_euclid\ X1 = k6\_numbers) \Leftrightarrow (X1 = k4\_struct\_0 \\ (k15\_euclid\ X0)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0 \\ (k15\_euclid\ X0))) \Rightarrow (k5\_algstr\_0\ (k15\_euclid\ X0)\ X1\ X1 = k4\_struct\_0 \\ (k15\_euclid\ X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0\ np\_2) \wedge (m2\_subset\_1\ np\_2\ k1\_numbers\ k5\_numbers)) \wedge \\ ((m1\_subset\_1\ np\_2\ k5\_numbers) \wedge (m1\_subset\_1\ np\_2\ k1\_numbers)) \end{aligned} \tag{4}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{5}$$

Assume the following.

$$v6\_membered\ k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1\ X0) \Rightarrow (l2\_algstr\_0\ X0) \quad (7)$$

Assume the following.

$$\forall X0.(l1\_rltopsp1\ X0) \Rightarrow ((l1\_rlvect\_1\ X0) \wedge (l1\_pre\_topc\ X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((l2\_algstr\_0\ X0) \wedge ((m1\_subset\_1 \\ X1\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)))) \Rightarrow (m1\_subset\_1 \\ (k5\_algstr\_0\ X0\ X1\ X2)\ (u1\_struct\_0\ X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow ((v5\_rltopsp1\ (k15\_euclid\ X0)) \wedge (l1\_rltopsp1\ (k15\_euclid\ X0))) \quad (10)$$

Assume the following.

$$\forall X0.(v6\_membered\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (v7\_ordinal1\ X1)) \quad (11)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_2))) \Rightarrow \\ (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_2))) \Rightarrow \\ ((k12\_euclid\ (k5\_algstr\_0\ (k15\_euclid\ np\_2)\ X0\ X1) = k6\_numbers) \Leftrightarrow \\ (X0 = X1))) \end{aligned}$$