

## t30\_euclid\_3

(TMPnbMqYyWE2TYFbtGaaqf3g37twZ7nHacN)

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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  $k3\_euclid\_3 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k19\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_euclid : \iota \Rightarrow \iota$  be given. Let  $k18\_euclid : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_euclid\_3 : \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_complex1 : \iota$  be given. Let  $k2\_euclid\_3 : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k17\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k1\_comptrig : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k4\_complex1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xcmplx\_0 : \iota$  be given. Let  $k2\_numbers : \iota$  be given. Let  $k17\_euclid : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 k1\_numbers) \Rightarrow (k1\_euclid\_3 (k2\_xcmplx\_0 X0 (k3\_xcmplx\_0 X1 k7\_complex1)) = \\ k19\_euclid X0 X1)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ (k1\_euclid\_3 (k2\_euclid\_3 X0) = X0) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k3\_xcmplx\_0 X0 k6\_numbers = k6\_numbers) \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ (k17\_complex1 (k2\_euclid\_3 X0) = k12\_euclid X0) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow ((k1\_comptrig X0 = k6\_numbers) \Leftrightarrow ( \\ (r1\_xxreal\_0 k6\_numbers (k3\_complex1 X0)) \wedge (k4\_complex1 X0 = k6\_numbers))) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k2\_xcmplx\_0 X0 \ k6\_numbers = X0) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow ((k1\_comp trig X0 = k6\_numbers) \Leftrightarrow (X0 = k17\_complex1 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((k3\_complex1 \\ (k2\_xcmplx\_0 X0 (k3\_xcmplx\_0 X1 \ k7\_complex1)) = X0) \wedge (k4\_complex1 \\ (k2\_xcmplx\_0 X0 (k3\_xcmplx\_0 X1 \ k7\_complex1)) = X1))) \end{aligned} \quad (8)$$

Assume the following.

$$k7\_complex1 = k1\_xcmplx\_0 \quad (9)$$

Assume the following.

$$v1\_xcmplx\_0 \ k1\_xcmplx\_0 \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid \ np\_2))) \Rightarrow (m1\_subset\_1 (k3\_euclid\_3 X0) \ k1\_numbers) \quad (11)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid \ np\_2))) \Rightarrow (m1\_subset\_1 (k2\_euclid\_3 X0) \ k2\_numbers) \quad (12)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid \ np\_2))) \Rightarrow (m1\_subset\_1 (k18\_euclid X0) \ k1\_numbers) \quad (13)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid \ np\_2))) \Rightarrow (m1\_subset\_1 (k17\_euclid X0) \ k1\_numbers) \quad (14)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid \ np\_2))) \Rightarrow (k3\_euclid\_3 X0 = k1\_comp trig (k2\_euclid\_3 X0)) \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid \ np\_2))) \Rightarrow \\ (k2\_euclid\_3 X0 = k2\_xcmplx\_0 (k17\_euclid X0) (k3\_xcmplx\_0 (k18\_euclid \\ X0) \ k7\_complex1)) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0)\wedge(v1\_xcmplx\_0 X1))\Rightarrow(k3\_xcmplx\_0 X0 X1 = k3\_xcmplx\_0 X1 X0) \quad (17)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xcmplx\_0 X0) \quad (18)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k2\_numbers)\Rightarrow(v1\_xcmplx\_0 X0) \quad (19)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (20)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow((k3\_euclid\_3 X0 = k6\_numbers)\Rightarrow((X0 = k19\_euclid (k12\_euclid X0) k6\_numbers)\wedge(k18\_euclid X0 = k6\_numbers)))$$