

## t5\_jordan1b

(TMK7Bg76bTggrSmvNhMmNticuhYfuhSYdnH)

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Let  $v1\_topreal2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k19\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k22\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k14\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k17\_euclid : \iota \Rightarrow \iota$  be given. Let  $k6\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $v2\_compts\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k23\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k16\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k18\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 ( \\ u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow ((X1 \in k14\_pscomp\_1 X0) \Rightarrow \\ (k17\_euclid X1 = k6\_pscomp\_1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 ( \\ u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow (\forall X1.((v2\_compts\_1 \\ X1 (k15\_euclid np\_2)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ (k15\_euclid np\_2)))))) \Rightarrow ((r1\_tarski X0 X1) \Rightarrow (r1\_xxreal\_0 (k6\_pscomp\_1 \\ X1) (k6\_pscomp\_1 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge \\ (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow \\ ((k23\_pscomp\_1 X0 \in k16\_pscomp\_1 X0) \wedge (k22\_pscomp\_1 X0 \in k16\_pscomp\_1 \\ X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow ((X1 \in k16\_pscomp\_1 X0) \Rightarrow (k17\_euclid X1 = k8\_pscomp\_1 X0))) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow ((k18\_pscomp\_1 X0 \in k14\_pscomp\_1 X0) \wedge (k19\_pscomp\_1 X0 \in k14\_pscomp\_1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow ((v1\_topreal2 X0) \Rightarrow (v2\_compts\_1 X0 (k15\_euclid np\_2))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow ((\neg (v1\_topreal2 X0)) \wedge (r1\_xxreal\_0 (k8\_pscomp\_1 X0) (k6\_pscomp\_1 X0))) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 X0 \quad (8)$$

Assume the following.

$$u1\_struct\_0 (k15\_euclid np\_2) = k1\_euclid np\_2 \quad (9)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (m1\_subset\_1 (k19\_pscomp\_1 X0) (u1\_struct\_0 (k15\_euclid np\_2))) \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow ((v1\_topreal2 X0) \Rightarrow ((\neg v1\_xboole\_0 X0) \wedge (v2\_compts\_1 X0 (k15\_euclid np\_2)))) \quad (11)$$

**Theorem 1**

$$\forall X0.((v1\_topreal2 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow (k19\_pscomp\_1 X0 \neq k22\_pscomp\_1 X0)$$