

## t5\_jordan7

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_compts\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  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  $v1\_topreal2 : \iota \Rightarrow o$  be given. Let  $r1\_jordan6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_jordan6 : \iota \Rightarrow \iota$  be given. Let  $k8\_jordan6 : \iota \Rightarrow \iota$  be given. Let  $k18\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_jordan5c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k22\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v1\_topreal2 X0) \wedge (m1\_subset\_1 \\ & X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow ((r1\_tarski \\ & (k9\_jordan6 X0) X0) \wedge (r1\_tarski (k8\_jordan6 X0) X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow ((r1\_jordan6 X0 X1 X2) \Leftrightarrow (\neg(\neg(X1 \in k8\_jordan6 X0) \wedge ((X2 \in \\ & k9\_jordan6 X0) \wedge (X2 \neq k18\_pscomp\_1 X0))) \wedge (\neg(X1 \in k8\_jordan6 X0) \wedge \\ & ((X2 \in k8\_jordan6 X0) \wedge (r1\_jordan5c (k8\_jordan6 X0) (k18\_pscomp\_1 \\ & X0) (k22\_pscomp\_1 X0) X1 X2)))) \wedge (\neg(X1 \in k9\_jordan6 X0) \wedge ((X2 \in k9\_jordan6 \\ & X0) \wedge ((X2 \neq k18\_pscomp\_1 X0) \wedge (r1\_jordan5c (k9\_jordan6 X0) (k22\_pscomp\_1 \\ & X0) (k18\_pscomp\_1 X0) X1 X2)))))) \end{aligned} \quad (3)$$

### Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow \\ & (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow \\ & (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow \\ & (((v1\_topreal2 X0) \wedge (r1\_jordan6 X0 X1 X2)) \Rightarrow ((X1 \in X0) \wedge (X2 \in X0))) \end{aligned}$$