

# t2\_jordan7 (TMT- TrHWBd1sMANMxc498kT4gM86tVMwSP78)

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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  $k18\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_jordan5c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_jordan6 : \iota \Rightarrow \iota$  be given. Let  $k22\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_euclid : \iota \Rightarrow \iota$  be given. Let  $k1\_jordan5c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_jordan6 : \iota \Rightarrow \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_jordan5c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_jordan6 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & \quad np\_2)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid \\ & \quad np\_2))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid \\ & \quad np\_2))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid \\ & \quad np\_2)))) \Rightarrow (((r1\_topreal1 (k15\_euclid np\_2) X1 X2 X0) \wedge (r1\_jordan5c \\ & \quad X0 X1 X2 X3 X1)) \Rightarrow (X3 = X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & \quad np\_2)))) \Rightarrow (((\neg v1\_xboole\_0 (k8\_jordan6 X0)) \wedge (m1\_subset\_1 (k8\_jordan6 \\ & \quad X0) (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & \quad np\_2)))) \Rightarrow (m1\_subset\_1 (k22\_pscomp\_1 X0) (u1\_struct\_0 (k15\_euclid \\ & \quad np\_2))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (m1\_subset\_1 (k18\_pscomp\_1 X0) (u1\_struct\_0 (k15\_euclid np\_2))) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow ((v1\_topreal2 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow \\ & ((X1 = k8\_jordan6 X0) \Leftrightarrow ((r1\_topreal1 (k15\_euclid np\_2) (k18\_pscomp\_1 X0) (k22\_pscomp\_1 X0) X1) \wedge (\exists X2.((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \wedge ((r1\_topreal1 (k15\_euclid np\_2) (k22\_pscomp\_1 X0) (k18\_pscomp\_1 X0) X2) \wedge ((k9\_subset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) X1 X2 = k2\_tarski (k18\_pscomp\_1 X0) (k22\_pscomp\_1 X0)) \wedge ((k4\_subset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) X1 X2 = X0) \wedge (\neg r1\_xxreal\_0 (k18\_euclid (k1\_jordan5c X1 (k6\_jordan6 (k10\_real\_1 (k7\_real\_1 (k6\_pscomp\_1 X0) (k8\_pscomp\_1 X0)) np\_2)) (k18\_pscomp\_1 X0) (k22\_pscomp\_1 X0))) (k18\_euclid (k2\_jordan5c X2 (k6\_jordan6 (k10\_real\_1 (k7\_real\_1 (k6\_pscomp\_1 X0) (k8\_pscomp\_1 X0)) np\_2)) (k22\_pscomp\_1 X0) (k18\_pscomp\_1 X0)))))))))))))) \quad (5) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow ((r1\_jordan6 X0 X1 X2) \Leftrightarrow (\neg(\neg(X1 \in k8\_jordan6 X0) \wedge ((X2 \in k9\_jordan6 X0) \wedge (X2 \neq k18\_pscomp\_1 X0))) \wedge ((\neg(X1 \in k8\_jordan6 X0) \wedge ((X2 \in k8\_jordan6 X0) \wedge (r1\_jordan5c (k8\_jordan6 X0) (k18\_pscomp\_1 X0) (k22\_pscomp\_1 X0) X1 X2))) \wedge (\neg(X1 \in k9\_jordan6 X0) \wedge ((X2 \in k9\_jordan6 X0) \wedge (X2 \neq k18\_pscomp\_1 X0) \wedge (r1\_jordan5c (k9\_jordan6 X0) (k22\_pscomp\_1 X0) (k18\_pscomp\_1 X0) X1 X2)))))))) \quad (6) \end{aligned}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow \\ & (((v1\_topreal2 X0) \wedge (r1\_jordan6 X0 X1 (k18\_pscomp\_1 X0))) \Rightarrow (X1 = k18\_pscomp\_1 X0)) \end{aligned}$$