

# l31\_jordan5c (TMLsd- Dien8EJu2vUgpNXmVPSB2V3LmBcyS8)

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Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v4\_topreal1 : \iota \Rightarrow o$  be given. Let  $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_jordan5c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (\neg(\neg r1\_xboole\_0 X0 X1) \wedge (\forall X2. \neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1\_xboole\_0 X0 X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 k5\_numbers) \Rightarrow (((v4\_pre\_topc \\ & X1 (k15\_euclid np\_2)) \wedge ((v4\_topreal1 X0) \wedge ((r1\_xxreal\_0 np\_1 \\ & X2) \wedge ((r1\_xxreal\_0 (k2\_nat\_1 X2 np\_1) (k3\_finseq\_1 X0)) \wedge (k2\_jordan5c \\ & (k3\_topreal1 np\_2 X0) X1 (k7\_partfun1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)) X0 np\_1) (k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) \\ & X0 (k3\_finseq\_1 X0)) \in k2\_topreal1 np\_2 X0 X2)))))) \Rightarrow ((r1\_xboole\_0 \\ & (k3\_topreal1 np\_2 X0) X1) \vee (k2\_jordan5c (k3\_topreal1 np\_2 X0) \\ & X1 (k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) X0 np\_1) (k7\_partfun1 \\ & (u1\_struct\_0 (k15\_euclid np\_2)) X0 (k3\_finseq\_1 X0)) = k2\_jordan5c \\ & (k2\_topreal1 np\_2 X0 X2) X1 (k7\_partfun1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)) X0 X2) (k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) X0 \\ & (k2\_nat\_1 X2 np\_1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 k5\_numbers) \Rightarrow (((v4\_topreal1 \\
& \quad X0) \wedge ((v4\_pre\_topc X1 (k15\_euclid np\_2)) \wedge ((r1\_xxreal\_0 np\_1 \\
& \quad X3) \wedge ((r1\_xxreal\_0 (k2\_nat\_1 X3 np\_1) (k3\_finseq\_1 X0)) \wedge ((X2 \in \\
& \quad k2\_topreal1 np\_2 X0 X3) \wedge (X2 \in X1)))))) \Rightarrow ((r1\_xboole\_0 (k2\_topreal1 \\
& \quad np\_2 X0 X3) X1) \vee (r2\_jordan3 (k7\_partfun1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) X0 X3) (k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) X0 \\
& \quad (k2\_nat\_1 X3 np\_1)) X2 (k2\_jordan5c (k2\_topreal1 np\_2 X0 X3) X1 \\
& \quad (k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) X0 X3) (k7\_partfun1 \\
& \quad (u1\_struct\_0 (k15\_euclid np\_2)) X0 (k2\_nat\_1 X3 np\_1)))))))))
\end{aligned} \tag{3}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 k5\_numbers) \Rightarrow (((v4\_topreal1 \\
& \quad X0) \wedge ((v4\_pre\_topc X1 (k15\_euclid np\_2)) \wedge ((k2\_jordan5c (k3\_topreal1 \\
& \quad np\_2 X0) X1 (k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) X0 np\_1) \\
& \quad (k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) X0 (k3\_finseq\_1 \\
& \quad X0)) \in k2\_topreal1 np\_2 X0 X3) \wedge ((r1\_xxreal\_0 np\_1 X3) \wedge ((r1\_xxreal\_0 \\
& \quad (k2\_nat\_1 X3 np\_1) (k3\_finseq\_1 X0)) \wedge ((X2 \in k2\_topreal1 np\_2 \\
& \quad X0 X3) \wedge (X2 \in X1)))))) \Rightarrow ((r1\_xboole\_0 (k3\_topreal1 np\_2 X0) X1) \vee \\
& \quad (r2\_jordan3 (k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) X0 \\
& \quad X3) (k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) X0 (k2\_nat\_1 \\
& \quad X3 np\_1)) X2 (k2\_jordan5c (k3\_topreal1 np\_2 X0) X1 (k7\_partfun1 \\
& \quad (u1\_struct\_0 (k15\_euclid np\_2)) X0 np\_1) (k7\_partfun1 (u1\_struct\_0 \\
& \quad (k15\_euclid np\_2)) X0 (k3\_finseq\_1 X0)))))))))
\end{aligned}$$