# l27_jordan5b (TMQdrDiLRg-BfWg7tVWpySnJPeD3PA3wF5nk)

October 27, 2020

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 $k3\_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_finseq\_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(m2\_finseq\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow ((X1 \in k3\_topreal1\ np\_\_2\ X0) \Rightarrow (r1\_tarski\ (k3\_topreal1\ np\_\_2\ (k2\_jordan3\ X0\ X1))\ (k3\_topreal1\ np\_\_2\ X0))))) \tag{1}$$

Assume the following.

$$\forall X0.(m2\_finseq\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow ((X1 \in k3\_topreal1\ np\_\_2\ X0) \Rightarrow (r1\_tarski\ (k3\_topreal1\ np\_\_2\ (k3\_jordan3\ X0\ X1))\ (k3\_topreal1\ np\_\_2\ X0))))) \tag{2}$$

Assume the following.

$$\forall X0.(m2\_finseq\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow (((X1 \in k3\_topreal1\ np\_\_2\ X0) \wedge ((X2 \in k3\_topreal1\ np\_\_2\ X0) \wedge ((k1\_jordan3\ X0\ X1 = k1\_jordan3\ X0\ X2) \wedge (r2\_jordan3\ (k7\_partfun1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))\ X0\ (k1\_jordan3\ X0\ X1))\ (k7\_partfun1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))\ X0\ (k2\_nat\_1\ (k1\_jordan3\ X0\ X1)\ np\_\_1))\ X1\ X2)))) \Rightarrow ((X1 = X2) \vee (X2 \in k3\_topreal1\ np\_\_2\ (k2\_jordan3\ X0\ X1)))))) \tag{3}$$

Assume the following.

$$\forall X0.(m2\_finseq\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\Rightarrow (((X1 \in k3\_topreal1\ np\_\_2\ X0)\wedge(X2 \in k3\_topreal1\ np\_\_2\ X0))\Rightarrow((r1\_xxreal\_0\ (k1\_jordan3\ X0\ X2)\ (k1\_jordan3\ X0\ X1))\vee(X2 \in k3\_topreal1\ np\_\_2\ (k2\_jordan3\ X0\ X1))))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1\_tarski\ X0\ X1)\wedge(r1\_tarski\ X1\ X2))\Rightarrow(r1\_tarski\ X0\ X2) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0)\Leftrightarrow(m1\_finseq\_1\ X1\ X0) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_finseq\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow (m2\_finseq\_1\ (k2\_jordan3\ X0\ X1)\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \tag{7}$$

Assume the following.

$$\forall X0.(m2\_finseq\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\Rightarrow (((((X1 \in k3\_topreal1\ np\_\_2\ X0)\wedge((X2 \in k3\_topreal1\ np\_\_2\ X0)\wedge(\neg r1\_xxreal\_0\ (k1\_jordan3\ X0\ X2)\ (k1\_jordan3\ X0\ X1))))\vee((k1\_jordan3\ X0\ X1 = k1\_jordan3\ X0\ X2)\wedge(r2\_jordan3\ (k7\_partfun1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))\ X0\ (k1\_jordan3\ X0\ X1))\ (k7\_partfun1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))\ X0\ (k2\_nat\_1\ (k1\_jordan3\ X0\ X1)\ np\_\_1))\ X1\ X2)))\Rightarrow (k4\_jordan3\ X0\ X1\ X2 = k3\_jordan3\ (k2\_jordan3\ X0\ X1)\ X2))\wedge(\neg(\neg(X1 \in k3\_topreal1\ np\_\_2\ X0)\wedge((X2 \in k3\_topreal1\ np\_\_2\ X0)\wedge(\neg r1\_xxreal\_0\ (k1\_jordan3\ X0\ X2)\ (k1\_jordan3\ X0\ X1))))\wedge((\neg(k1\_jordan3\ X0\ X1 = k1\_jordan3\ X0\ X2)\wedge(r2\_jordan3\ (k7\_partfun1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))\ X0\ (k1\_jordan3\ X0\ X1))\ (k7\_partfun1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))\ X0\ (k2\_nat\_1\ (k1\_jordan3\ X0\ X1)\ np\_\_1))\ X1\ X2))\wedge(k4\_jordan3\ X0\ X1\ X2 \neq k4\_finseq\_5\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))\ (k3\_jordan3\ (k2\_jordan3\ X0\ X2)\ X1))))))) \tag{8}$$

**Theorem 1**

$$\forall X0.(m2\_finseq\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\Rightarrow$$
$$(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\Rightarrow$$
$$(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\Rightarrow$$
$$(((X1 \in k3\_topreal1\ np\_\_2\ X0)\wedge(X2 \in k3\_topreal1\ np\_\_2\ X0))\Rightarrow(((r1\_xxreal\_0$$
$$(k1\_jordan3\ X0\ X2)\ (k1\_jordan3\ X0\ X1))\wedge(\neg(k1\_jordan3\ X0\ X1 = k1\_jordan3$$
$$X0\ X2)\wedge(r2\_jordan3\ (k7\_partfun1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))$$
$$X0\ (k1\_jordan3\ X0\ X1))\ (k7\_partfun1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))$$
$$X0\ (k2\_nat\_1\ (k1\_jordan3\ X0\ X1)\ np\_\_1))\ X1\ X2)))\vee((X1 = X2)\vee(r1\_tarski$$
$$(k3\_topreal1\ np\_\_2\ (k4\_jordan3\ X0\ X1\ X2))\ (k3\_topreal1\ np\_\_2\ X0)))))))$$