

# l41\_jordan1b (TMW- nAkNnBfpZ5XP9cZmNBL764bc7ZwSAse3)

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Let  $v2\_connsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $v2\_compts\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_sppol\_1 : \iota \Rightarrow o$  be given. Let  $v2\_sppol\_1 : \iota \Rightarrow o$  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  $k5\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_jordan8 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_goboard5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_jordan2c : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_jordan2c : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v3\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_matrix\_1 : \iota \Rightarrow o$  be given. Let  $v2\_goboard1 : \iota \Rightarrow o$  be given. Let  $v3\_goboard1 : \iota \Rightarrow o$  be given. Let  $v4\_goboard1 : \iota \Rightarrow o$  be given. Let  $v5\_goboard1 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v2\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v2\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_newton : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k19\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $v4\_membered : \iota \Rightarrow o$  be given. Let  $v5\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (\neg v1\_xboole\_0 X2) \Rightarrow (\neg (r1\_tarski X2 X0) \wedge ((r1\_tarski X2 X1) \wedge (r1\_xboole\_0 X0 X1))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge ((\neg v1\_sppol\_1 X0) \wedge ((\neg v2\_sppol\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 k5\_numbers) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 k5\_numbers) \Rightarrow ((r1\_xxreal\_0 X1 (k3\_finseq\_1 (k1\_jordan8 X0 X2))) \Rightarrow (r1\_tarski (k3\_goboard5 (k1\_jordan8 X0 X2) (k3\_finseq\_1 (k1\_jordan8 X0 X2)) X1) (k2\_jordan2c np\_2 X0)))))) \quad (3) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid X0)))) \Rightarrow (r1\_xboole\_0 (k1\_jordan2c X0 X1) (k2\_jordan2c X0 X1))) \quad (5) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2.((\neg v3\_relat\_1 X2) \wedge ((v1\_matrix\_1 X2) \wedge ((v2\_goboard1 X2) \wedge ((v3\_goboard1 X2) \wedge \\ & ((v4\_goboard1 X2) \wedge ((v5\_goboard1 X2) \wedge (m2\_finseq\_1 X2 (k3\_finseq\_2 (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \Rightarrow (\neg(r1\_xxreal\_0 X0 (k3\_finseq\_1 X2)) \wedge ((r1\_xxreal\_0 X1 (k1\_matrix\_1 X2)) \wedge (v1\_xboole\_0 (k3\_goboard5 X2 X0 X1)))))) \quad (6) \end{aligned}$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \quad (7) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (r1\_xxreal\_0 X0 X0) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (9) \end{aligned}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (10)$$

Assume the following.

$$\begin{aligned} \exists X0.(v1\_relat\_1 X0) \wedge ((v2\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 \\ k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge ((\neg v1\_xboole\_0 X0) \wedge ((v1\_finset\_1 \\ X0) \wedge ((v1\_finseq\_1 X0) \wedge (v2\_finseq\_1 X0))))))) \end{aligned} \quad (11)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 ( \\ k15\_euclid np\_2)) \wedge ((\neg v1\_sppol\_1 X0) \wedge ((\neg v2\_sppol\_1 X0) \wedge (m1\_subset\_1 \\ X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))))) \wedge (v7\_ordinal1 \\ X1)) \Rightarrow ((v1\_matrix\_1 (k1\_jordan8 X0 X1) \wedge ((v4\_goboard1 (k1\_jordan8 \\ X0 X1) \wedge (v5\_goboard1 (k1\_jordan8 X0 X1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 \\ (u1\_struct\_0 (k15\_euclid np\_2)))))) \wedge (v7\_ordinal1 X1)) \Rightarrow ((\neg v3\_relat\_1 \\ (k1\_jordan8 X0 X1) \wedge ((v1\_matrix\_1 (k1\_jordan8 X0 X1) \wedge ((v2\_goboard1 \\ (k1\_jordan8 X0 X1) \wedge (v3\_goboard1 (k1\_jordan8 X0 X1)))))) \end{aligned} \quad (14)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 \\ (k15\_euclid np\_2)))) \wedge (v7\_ordinal1 X1)) \Rightarrow ((v1\_matrix\_1 (k1\_jordan8 \\ X0 X1) \wedge (m2\_finseq\_1 (k1\_jordan8 X0 X1) (k3\_finseq\_2 (u1\_struct\_0 \\ (k15\_euclid np\_2)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\forall X2.((v1\_matrix\_1 \\
& X2) \wedge (m2\_finseq\_1 X2 (k3\_finseq\_2 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow \\
& ((X2 = k1\_jordan8 X0 X1) \Leftrightarrow ((k3\_finseq\_1 X2 = k1\_nat\_1 (k2\_newton \\
& \quad np\_2 X1) np\_3) \wedge ((k3\_finseq\_1 X2 = k1\_matrix\_1 X2) \wedge (\forall X3. \\
& \quad (v7\_ordinal1 X3) \Rightarrow (\forall X4.(v7\_ordinal1 X4) \Rightarrow ((k4\_tarski X3 \\
& \quad X4 \in k2\_matrix\_1 X2) \Rightarrow (k3\_matrix\_1 (u1\_struct\_0 (k15\_euclid np\_2)) \\
& \quad X2 X3 X4 = k19\_euclid (k7\_real\_1 (k6\_pscomp\_1 X0) (k4\_real\_1 (k13\_complex1 \\
& \quad (k9\_real\_1 (k8\_pscomp\_1 X0) (k6\_pscomp\_1 X0)) (k2\_newton np\_2 \\
& \quad X1)) (k5\_real\_1 X3 np\_2))) (k7\_real\_1 (k9\_pscomp\_1 X0) (k4\_real\_1 \\
& \quad (k13\_complex1 (k9\_real\_1 (k7\_pscomp\_1 X0) (k9\_pscomp\_1 X0)) ( \\
& \quad \quad k2\_newton np\_2 X1)) (k5\_real\_1 X4 np\_2))))))))))))) \\
& \hspace{15em} (17)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (v4\_relat\_1 \\
& X1 X0)) \Rightarrow ((v1\_xboole\_0 X1) \wedge ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)))) \\
& \hspace{15em} (18)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow ((v1\_xboole\_0 X0) \Rightarrow (v1\_sppol\_1 X0)) \\
& \hspace{15em} (19)
\end{aligned}$$

Assume the following.

$$\forall X0.(v3\_membered X0) \Rightarrow (v2\_membered X0) \hspace{10em} (20)$$

Assume the following.

$$\forall X0.(v4\_membered X0) \Rightarrow (v3\_membered X0) \hspace{10em} (21)$$

Assume the following.

$$\forall X0.(v5\_membered X0) \Rightarrow (v4\_membered X0) \hspace{10em} (22)$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (v5\_membered X0) \hspace{10em} (23)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow \\
& \quad (v7\_ordinal1 X1)) \\
& \hspace{15em} (24)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow \\
& \quad (v1\_xxreal\_0 X1)) \\
& \hspace{15em} (25)
\end{aligned}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v2\_connsp\_1 X0 (k15\_euclid np\_2)) \wedge ((v2\_compts\_1 \\ & X0 (k15\_euclid np\_2)) \wedge ((\neg v1\_sppol\_1 X0) \wedge ((\neg v2\_sppol\_1 X0) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2))))))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 k5\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 k5\_numbers) \Rightarrow (\forall X3.(m1\_subset\_1 X3 k5\_numbers) \Rightarrow (\neg (r1\_xxreal\_0 \\ & X1 (k1\_matrix\_1 (k1\_jordan8 X0 X2))) \wedge ((r1\_tarski (k3\_goboard5 \\ & (k1\_jordan8 X0 X2) X3 X1) (k1\_jordan2c np\_2 X0)) \wedge (X3 = k3\_finseq\_1 \\ & (k1\_jordan8 X0 X2))))))) \end{aligned}$$