

t37\_jordan1j  
(TMJHqRbp6SRrLx2NLG2VgSMJvtqz1EP345p)

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Let  $v4\_topreal1 : \iota \Rightarrow o$  be given. 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  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_topreal1 : \iota \Rightarrow o$  be given. Let  $v3\_topreal1 : \iota \Rightarrow o$  be given. Let  $v1\_topreal1 : \iota \Rightarrow o$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg(X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow (\forall X2. (v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow (r1\_xxreal\_0 X0 X2)))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & ((v4\_topreal1 X0) \Rightarrow (k2\_jordan3 X0 (k7\_partfun1 (u1\_struct\_0 (k15\_euclid np\_2)) X0 np\_1) = X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (\forall X1.(v7\_ordinal1 X1) \Rightarrow ((X1 \in k1\_relset\_1 k5\_numbers X0) \Leftrightarrow \\ & ((r1\_xxreal\_0 np\_1 X1) \wedge (r1\_xxreal\_0 X1 (k3\_finseq\_1 X0)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (( \\ & (r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X0)) \Rightarrow (X0 = X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X2.(v7\_ordinal1 X2) \Rightarrow (((v4\_topreal1 X0) \wedge ((r1\_xxreal\_0 \\ & X2 (k3\_finseq\_1 X0)) \wedge (X1 = k1\_funct\_1 X0 X2))) \Rightarrow ((r1\_xxreal\_0 X2 \\ & np\_1) \vee (k2\_nat\_1 (k1\_jordan3 X0 X1) np\_1 = X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m2\_finseq\_1 X1 X0) \Rightarrow \\ & ((r1\_xxreal\_0 np\_1 (k3\_finseq\_1 X1)) \Rightarrow (k3\_finseq\_6 X0 X1 np\_1 \\ & (k3\_finseq\_1 X1) = X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (( \\ & v1\_funct\_1 X1) \wedge ((v2\_funct\_1 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow ((X0 \in k4\_finseq\_1 \\ & X1) \Rightarrow (k4\_finseq\_4 X1 (k1\_funct\_1 X1 X0) = X0))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 \\ & X1))) \Rightarrow (\neg (X0 \in k10\_xtuple\_0 X1) \wedge (\forall X2.(v7\_ordinal1 X2) \Rightarrow \\ & (\neg (X2 \in k4\_finseq\_1 X1) \wedge (k1\_funct\_1 X1 X2 = X0)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 \ np\_1) \wedge (m2\_subset\_1 \ np\_1 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_1 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_1 \ k1\_numbers)) \end{aligned} \quad (12)$$

Assume the following.

$$\neg r1\_xxreal\_0 \ np\_2 \ np\_1 \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xxreal\_0 \ X0) \wedge (v1\_xxreal\_0 \ X1)) \Rightarrow (r1\_xxreal\_0 \ X0 \ X0) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 \ X0) \wedge ((\neg v1\_xboole\_0 \ X1) \wedge \\ & (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & \ X2 \ X0 \ X1) \Leftrightarrow (m1\_subset\_1 \ X2 \ X1)) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 \ X1 \ X0) \Leftrightarrow (m1\_finseq\_1 \ X1 \ X0) \quad (16)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (17)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v1\_finseq\_1 \ X0))) \Rightarrow (k4\_finseq\_1 \ X0 = k9\_xtuple\_0 \ X0) \quad (18)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 \ X1) \wedge (v4\_relat\_1 \ X1 \ X0)) \Rightarrow (k1\_relset\_1 \ X0 \ X1 = k9\_xtuple\_0 \ X1) \quad (19)$$

Assume the following.

$$\exists X0. (m1\_subset\_1 \ X0 \ (k1\_zfmisc\_1 \ k1\_numbers)) \wedge ((\neg v1\_xboole\_0 \ X0) \wedge (v3\_ordinal1 \ X0)) \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0. \exists X1. (m1\_finseq\_1 \ X1 \ X0) \wedge ((v1\_relat\_1 \ X1) \wedge \\ & (v4\_relat\_1 \ X1 \ k5\_numbers) \wedge ((v5\_relat\_1 \ X1 \ X0) \wedge ((v1\_funct\_1 \\ & \ X1) \wedge ((v1\_xboole\_0 \ X1) \wedge ((v1\_finset\_1 \ X1) \wedge (v1\_finseq\_1 \ X1)))))) \end{aligned} \quad (21)$$

Assume the following.

$$v6\_membered \ k4\_ordinal1 \quad (22)$$

Assume the following.

$$v3\_membered\ k1\_numbers \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0)\Rightarrow((v1\_funct\_1\ X1)\wedge((v1\_finseq\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ X0)))))) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1\ X1\ X0)\Rightarrow((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1))) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X1)\wedge((v5\_relat\_1\ X1\ X0)\wedge(v1\_funct\_1\ X1)))\Rightarrow(m1\_subset\_1\ (k7\_partfun1\ X0\ X1\ X2)\ X0) \quad (26)$$

Assume the following.

$$m1\_subset\_1\ k5\_numbers\ (k1\_zfmisc\_1\ k1\_numbers) \quad (27)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finseq\_1\ X0)))\Rightarrow(m1\_subset\_1\ (k4\_finseq\_4\ X0\ X1)\ k5\_numbers) \quad (28)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finseq\_1\ X0)))\Rightarrow(m2\_subset\_1\ (k3\_finseq\_1\ X0)\ k1\_numbers\ k5\_numbers) \quad (29)$$

Assume the following.

$$\forall X0.(m2\_finseq\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_2)))\Rightarrow((v4\_topreal1\ X0)\Leftrightarrow((v2\_funct\_1\ X0)\wedge((r1\_xxreal\_0\ np\_2\ (k3\_finseq\_1\ X0))\wedge((v2\_topreal1\ X0)\wedge((v3\_topreal1\ X0)\wedge(v1\_topreal1\ X0)))))) \quad (30)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v5\_relat\_1\ X1\ X0)\wedge(v1\_funct\_1\ X1)))\Rightarrow(\forall X2.(X2 \in k9\_xtuple\_0\ X1)\Rightarrow(k7\_partfun1\ X0\ X1\ X2 = k1\_funct\_1\ X1\ X2)) \quad (31)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (((X1 \neq k1\_funct\_1 X0 (k2\_nat\_1 (k1\_jordan3 X0 X1) np\_1)) \Rightarrow (k2\_jordan3 \\
& X0 X1 = k8\_finseq\_1 (u1\_struct\_0 (k15\_euclid np\_2)) (k12\_finseq\_1 \\
& (u1\_struct\_0 (k15\_euclid np\_2)) X1) (k3\_finseq\_6 (u1\_struct\_0 \\
& (k15\_euclid np\_2)) X0 (k2\_nat\_1 (k1\_jordan3 X0 X1) np\_1) (k3\_finseq\_1 \\
& X0)))) \wedge ((X1 = k1\_funct\_1 X0 (k2\_nat\_1 (k1\_jordan3 X0 X1) np\_1)) \Rightarrow \\
& (k2\_jordan3 X0 X1 = k3\_finseq\_6 (u1\_struct\_0 (k15\_euclid np\_2)) \\
& X0 (k2\_nat\_1 (k1\_jordan3 X0 X1) np\_1) (k3\_finseq\_1 X0))))))
\end{aligned} \tag{32}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ( \\
& (r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0))
\end{aligned} \tag{33}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \tag{34}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(v1\_xboole\_0 X0) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0))) \Rightarrow (v1\_xboole\_0 X2))
\end{aligned} \tag{35}$$

Assume the following.

$$\forall X0.(v3\_membered X0) \Rightarrow (v2\_membered X0) \tag{36}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& ((v4\_topreal1 X0) \Rightarrow (\neg v1\_xboole\_0 X0))
\end{aligned} \tag{37}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(v1\_xboole\_0 X0) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_xboole\_0 X2))
\end{aligned} \tag{38}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1))
\end{aligned} \tag{39}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& X0)) \Rightarrow (v2\_membered X1))
\end{aligned} \tag{40}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (41)$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \quad (42)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_xreal\_0 X1)) \quad (43)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v4\_topreal1 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid \\ np\_2)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid \\ np\_2)))) \Rightarrow ((X1 \in k10\_xtuple\_0 X0) \Rightarrow (k2\_jordan3 X0 X1 = k3\_finseq\_6 \\ (u1\_struct\_0 (k15\_euclid np\_2)) X0 (k4\_finseq\_4 X0 X1) (k3\_finseq\_1 \\ X0)))) \end{aligned}$$