

## t34\_jordan1h

(TMcLYszvX4NAwYYdJ8QF4Q5zVpQzzatFbic)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $v3\_relat\_1 : \iota \Rightarrow o$  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  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $r1\_goboard1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k2\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_goboard2 : \iota \Rightarrow \iota$  be given. Let  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_pscomp\_1 : \iota$  be given. Let  $k2\_jordan1h : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_pscomp\_1 : \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 ( \\
 & \quad k15\_euclid np\_2)))) \Rightarrow (\forall X1. ((\neg v3\_relat\_1 X1) \wedge ((v1\_matrix\_1 \\
 & \quad X1) \wedge ((v2\_goboard1 X1) \wedge ((v3\_goboard1 X1) \wedge ((v4\_goboard1 X1) \wedge \\
 & \quad ((v5\_goboard1 X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 \\
 & \quad (k15\_euclid np\_2)))))))))) \Rightarrow (((k7\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
 & \quad np\_2)) k1\_numbers k4\_pscomp\_1 (k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
 & \quad np\_2)) X0) = k7\_relset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) k1\_numbers \\
 & \quad k4\_pscomp\_1 (k2\_jordan1h (u1\_struct\_0 (k15\_euclid np\_2)) X1)) \wedge \\
 & \quad (k7\_relset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) k1\_numbers k5\_pscomp\_1 \\
 & \quad (k2\_relset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) X0) = k7\_relset\_1 \\
 & \quad (u1\_struct\_0 (k15\_euclid np\_2)) k1\_numbers k5\_pscomp\_1 (k2\_jordan1h \\
 & \quad (u1\_struct\_0 (k15\_euclid np\_2)) X1))) \Rightarrow (X1 = k2\_goboard2 X0))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 ( \\
& \quad k15\_euclid \ np\_2)))) \Rightarrow (\forall X1.((\neg v3\_relat\_1 X1) \wedge ((v1\_matrix\_1 \\
& \quad X1) \wedge ((v2\_goboard1 X1) \wedge ((v3\_goboard1 X1) \wedge ((v4\_goboard1 X1) \wedge \\
& \quad ((v5\_goboard1 X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 \\
& \quad (k15\_euclid \ np\_2)))))))))) \Rightarrow ((r1\_goboard1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) X0 X1) \Rightarrow ((\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow \\
& \quad (\neg(k4\_tarski X2 np\_1 \in k2\_matrix\_1 X1) \wedge (k3\_matrix\_1 (u1\_struct\_0 \\
& \quad (k15\_euclid \ np\_2)) X1 X2 np\_1 \in k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) X0))) \vee ((\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow \\
& \quad (\neg(k4\_tarski X2 (k1\_matrix\_1 X1) \in k2\_matrix\_1 X1) \wedge (k3\_matrix\_1 \\
& \quad (u1\_struct\_0 (k15\_euclid \ np\_2)) X1 X2 (k1\_matrix\_1 X1) \in k2\_relset\_1 \\
& \quad (u1\_struct\_0 (k15\_euclid \ np\_2)) X0))) \vee (k7\_relset\_1 (u1\_struct\_0 \\
& \quad (k15\_euclid \ np\_2)) k1\_numbers k5\_pscomp\_1 (k2\_relset\_1 (u1\_struct\_0 \\
& \quad (k15\_euclid \ np\_2)) X0) = k7\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) k1\_numbers k5\_pscomp\_1 (k2\_jordan1h (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) X1))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 ( \\
& \quad k15\_euclid \ np\_2)))) \Rightarrow (\forall X1.((\neg v3\_relat\_1 X1) \wedge ((v1\_matrix\_1 \\
& \quad X1) \wedge ((v2\_goboard1 X1) \wedge ((v3\_goboard1 X1) \wedge ((v4\_goboard1 X1) \wedge \\
& \quad ((v5\_goboard1 X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 \\
& \quad (k15\_euclid \ np\_2)))))))))) \Rightarrow ((r1\_goboard1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) X0 X1) \Rightarrow ((\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow \\
& \quad (\neg(k4\_tarski np\_1 X2 \in k2\_matrix\_1 X1) \wedge (k3\_matrix\_1 (u1\_struct\_0 \\
& \quad (k15\_euclid \ np\_2)) X1 np\_1 X2 \in k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) X0))) \vee ((\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow \\
& \quad (\neg(k4\_tarski (k3\_finseq\_1 X1) X2 \in k2\_matrix\_1 X1) \wedge (k3\_matrix\_1 \\
& \quad (u1\_struct\_0 (k15\_euclid \ np\_2)) X1 (k3\_finseq\_1 X1) X2 \in k2\_relset\_1 \\
& \quad (u1\_struct\_0 (k15\_euclid \ np\_2)) X0))) \vee (k7\_relset\_1 (u1\_struct\_0 \\
& \quad (k15\_euclid \ np\_2)) k1\_numbers k4\_pscomp\_1 (k2\_relset\_1 (u1\_struct\_0 \\
& \quad (k15\_euclid \ np\_2)) X0) = k7\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) k1\_numbers k4\_pscomp\_1 (k2\_jordan1h (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) X1))))))
\end{aligned} \tag{3}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 ( \\
& \quad k15\_euclid \ np\_2)))) \Rightarrow (\forall X1.((\neg v3\_relat\_1 X1) \wedge ((v1\_matrix\_1 \\
& \quad X1) \wedge ((v2\_goboard1 X1) \wedge ((v3\_goboard1 X1) \wedge ((v4\_goboard1 X1) \wedge \\
& \quad ((v5\_goboard1 X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 (u1\_struct\_0 \\
& \quad (k15\_euclid \ np\_2)))))))))) \Rightarrow ((r1\_goboard1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) X0 X1) \Rightarrow ((\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow \\
& \quad (\neg(k4\_tarski \ np\_1 X2 \in k2\_matrix\_1 X1) \wedge (k3\_matrix\_1 (u1\_struct\_0 \\
& \quad (k15\_euclid \ np\_2)) X1 \ np\_1 X2 \in k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) X0))) \vee ((\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow \\
& \quad (\neg(k4\_tarski X2 \ np\_1 \in k2\_matrix\_1 X1) \wedge (k3\_matrix\_1 (u1\_struct\_0 \\
& \quad (k15\_euclid \ np\_2)) X1 X2 \ np\_1 \in k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)) X0))) \vee ((\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow \\
& \quad (\neg(k4\_tarski (k3\_finseq\_1 X1) X2 \in k2\_matrix\_1 X1) \wedge (k3\_matrix\_1 \\
& \quad (u1\_struct\_0 (k15\_euclid \ np\_2)) X1 (k3\_finseq\_1 X1) X2 \in k2\_relset\_1 \\
& \quad (u1\_struct\_0 (k15\_euclid \ np\_2)) X0))) \vee ((\forall X2.(m2\_subset\_1 \\
& \quad X2 k1\_numbers k5\_numbers) \Rightarrow (\neg(k4\_tarski X2 (k1\_matrix\_1 X1) \in k2\_matrix\_1 \\
& \quad X1) \wedge (k3\_matrix\_1 (u1\_struct\_0 (k15\_euclid \ np\_2)) X1 X2 (k1\_matrix\_1 \\
& \quad X1) \in k2\_relset\_1 (u1\_struct\_0 (k15\_euclid \ np\_2)) X0))) \vee (X1 = \\
& \quad k2\_goboard2 X0))))))
\end{aligned}$$