

# t52\_jordan4 (TMdLt- bQbFFw8FKFNFgbUYAdN8BddyKQQQTcf)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v3\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_6 : \iota \Rightarrow \iota \Rightarrow o$  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  $v1\_topreal1 : \iota \Rightarrow o$  be given. Let  $v2\_topreal1 : \iota \Rightarrow o$  be given. Let  $v1\_goboard5 : \iota \Rightarrow o$  be given. Let  $v2\_goboard5 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_jordan4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k17\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\
& X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\
& X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1. (m2\_finseq\_1 X1 (u1\_struct\_0 \\
& (k15\_euclid np\_2))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 k5\_numbers) \Rightarrow \\
& (\forall X3. (m1\_subset\_1 X3 k5\_numbers) \Rightarrow ((r1\_jordan4 X0 X1 X2 \\
& X3) \Rightarrow ((r1\_xxreal\_0 X2 X3) \vee ((k3\_finseq\_1 X1 = k7\_nat\_d (k2\_nat\_1 \\
& (k3\_finseq\_1 X0) X3) X2) \wedge ((X1 = k8\_finseq\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) (k3\_finseq\_6 (u1\_struct\_0 (k15\_euclid np\_2)) X0 X2 (k7\_nat\_d \\
& (k3\_finseq\_1 X0) np\_1)) (k17\_finseq\_1 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) X3 X0)) \wedge (X1 = k8\_finseq\_1 (u1\_struct\_0 (k15\_euclid np\_2)) \\
& (k3\_finseq\_6 (u1\_struct\_0 (k15\_euclid np\_2)) X0 X2 (k7\_nat\_d \\
& (k3\_finseq\_1 X0) np\_1)) (k3\_finseq\_6 (u1\_struct\_0 (k15\_euclid \\
& np\_2)) X0 np\_1 X3))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\
& X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\
& X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1.(m2\_finseq\_1 X1 (u1\_struct\_0 \\
& (k15\_euclid np\_2))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k5\_numbers) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 k5\_numbers) \Rightarrow (((r1\_jordan4 X0 X1 X2 \\
& X3) \wedge (r1\_xxreal\_0 X2 X3)) \Rightarrow ((k3\_finseq\_1 X1 = k2\_nat\_1 (k7\_nat.d \\
& X3 X2) np\_1) \wedge (X1 = k3\_finseq\_6 (u1\_struct\_0 (k15\_euclid np\_2)) \\
& X0 X2 X3))))))
\end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\
& X1 k5\_numbers) \Rightarrow (\forall X2.((\neg v1\_xboole\_0 X2) \wedge ((\neg v3\_funct\_1 \\
& X2) \wedge ((v1\_finseq\_6 X2 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 \\
& X2) \wedge ((v2\_topreal1 X2) \wedge ((v1\_goboard5 X2) \wedge ((v2\_goboard5 X2) \wedge \\
& (m2\_finseq\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X3. \\
& (m2\_finseq\_1 X3 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow (\forall X4. \\
& (m2\_finseq\_1 X4 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow (((r1\_jordan4 \\
& X2 X3 X0 X1) \wedge (r1\_jordan4 X2 X4 X0 X1)) \Rightarrow (X3 = X4))))))
\end{aligned}$$