

t24\_jordan4  
(TMQELeoPdonh6TB4LE7GrveqVRs5Gv73d51)

October 27, 2020

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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $r3\_jordan4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_jordan4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $r1\_jordan4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_jordan4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\ & X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ & X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1. (m2\_finseq\_1 X1 (u1\_struct\_0 \\ & (k15\_euclid np\_2))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 k5\_numbers) \Rightarrow \\ & (\forall X3. (m1\_subset\_1 X3 k5\_numbers) \Rightarrow ((r3\_jordan4 X0 X1 X2 \\ & X3) \Leftrightarrow ((r1\_jordan4 X0 X1 X2 X3) \vee (r2\_jordan4 X0 X1 X2 X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\
& X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\
& X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1.(m2\_finseq\_1 X1 (u1\_struct\_0 \\
& (k15\_euclid np\_2))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k5\_numbers) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 k5\_numbers) \Rightarrow ((r2\_jordan4 X0 X1 X2 \\
& X3) \Leftrightarrow ((r1\_xxreal\_0 np\_1 X2) \wedge ((r1\_xxreal\_0 (k2\_nat\_1 X2 np\_1) \\
& (k3\_finseq\_1 X0)) \wedge ((r1\_xxreal\_0 np\_1 X3) \wedge ((r1\_xxreal\_0 (k2\_nat\_1 \\
& X3 np\_1) (k3\_finseq\_1 X0)) \wedge ((k1\_funct\_1 X1 (k3\_finseq\_1 X1) = \\
& k1\_funct\_1 X0 X3) \wedge ((r1\_xxreal\_0 np\_1 (k3\_finseq\_1 X1)) \wedge ((\neg r1\_xxreal\_0 \\
& (k3\_finseq\_1 X0) (k3\_finseq\_1 X1)) \wedge (\forall X4.(v7\_ordinal1 \\
& X4) \Rightarrow (((r1\_xxreal\_0 np\_1 X4) \wedge (r1\_xxreal\_0 X4 (k3\_finseq\_1 X1))) \Rightarrow \\
& (k1\_funct\_1 X1 X4 = k1\_funct\_1 X0 (k1\_jordan4 (k7\_nat\_d (k2\_nat\_1 \\
& (k3\_finseq\_1 X0) X2) X4) X0)))))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\
& X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\
& X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1.(m2\_finseq\_1 X1 (u1\_struct\_0 \\
& (k15\_euclid np\_2))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k5\_numbers) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 k5\_numbers) \Rightarrow ((r1\_jordan4 X0 X1 X2 \\
& X3) \Leftrightarrow ((r1\_xxreal\_0 np\_1 X2) \wedge ((r1\_xxreal\_0 (k2\_nat\_1 X2 np\_1) \\
& (k3\_finseq\_1 X0)) \wedge ((r1\_xxreal\_0 np\_1 X3) \wedge ((r1\_xxreal\_0 (k2\_nat\_1 \\
& X3 np\_1) (k3\_finseq\_1 X0)) \wedge ((k1\_funct\_1 X1 (k3\_finseq\_1 X1) = \\
& k1\_funct\_1 X0 X3) \wedge ((r1\_xxreal\_0 np\_1 (k3\_finseq\_1 X1)) \wedge ((\neg r1\_xxreal\_0 \\
& (k3\_finseq\_1 X0) (k3\_finseq\_1 X1)) \wedge (\forall X4.(v7\_ordinal1 \\
& X4) \Rightarrow (((r1\_xxreal\_0 np\_1 X4) \wedge (r1\_xxreal\_0 X4 (k3\_finseq\_1 X1))) \Rightarrow \\
& (k1\_funct\_1 X1 X4 = k1\_funct\_1 X0 (k1\_jordan4 (k7\_nat\_d (k2\_nat\_1 \\
& X2 X4) np\_1) X0)))))))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \tag{5}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge (\neg v3\_funct\_1 X0) \wedge ((v1\_finseq\_6 \\
& X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\
& X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\
& (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1.(m2\_finseq\_1 X1 (u1\_struct\_0 \\
& (k15\_euclid np\_2))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k5\_numbers) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 k5\_numbers) \Rightarrow ((r3\_jordan4 X0 X1 X2 \\
& X3) \Rightarrow ((r1\_xxreal\_0 np\_1 X2) \wedge ((r1\_xxreal\_0 (k2\_nat\_1 X2 np\_1) \\
& (k3\_finseq\_1 X0)) \wedge ((r1\_xxreal\_0 np\_1 X3) \wedge ((r1\_xxreal\_0 (k2\_nat\_1 \\
& X3 np\_1) (k3\_finseq\_1 X0)) \wedge ((k1\_funct\_1 X1 (k3\_finseq\_1 X1) = \\
& k1\_funct\_1 X0 X3) \wedge ((r1\_xxreal\_0 np\_1 (k3\_finseq\_1 X1)) \wedge ((\neg r1\_xxreal\_0 \\
& (k3\_finseq\_1 X0) (k3\_finseq\_1 X1)) \wedge ((\forall X4.(m1\_subset\_1 \\
& X4 k5\_numbers) \Rightarrow ((r1\_xxreal\_0 np\_1 X4) \wedge (r1\_xxreal\_0 X4 (k3\_finseq\_1 \\
& X1))) \Rightarrow (k1\_funct\_1 X1 X4 = k1\_funct\_1 X0 (k1\_jordan4 (k7\_nat\_d ( \\
& k2\_nat\_1 X2 X4) np\_1) X0)))))) \vee (\forall X4.(m1\_subset\_1 X4 k5\_numbers) \Rightarrow \\
& ((r1\_xxreal\_0 np\_1 X4) \wedge (r1\_xxreal\_0 X4 (k3\_finseq\_1 X1))) \Rightarrow \\
& (k1\_funct\_1 X1 X4 = k1\_funct\_1 X0 (k1\_jordan4 (k7\_nat\_d (k2\_nat\_1 \\
& (k3\_finseq\_1 X0) X2) X4) X0))))))))))
\end{aligned}$$