

t5\_jordan16 (TMd-  
pdc3xFwLAVkJMj7o1MRVLzTTDRn6jVyF)

October 27, 2020

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  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $r1\_jordan5c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_jordan6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_topmetr : \iota$  be given. Let  $k1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v3\_tops\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
 & \quad np\_2)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid \\
 & \quad np\_2)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid \\
 & \quad np\_2)))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid \\
 & \quad np\_2)))) \Rightarrow ((X3 \in X0) \Rightarrow (r1\_jordan5c X0 X1 X2 X3 X3))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
 & \quad np\_2)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid \\
 & \quad np\_2)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid \\
 & \quad np\_2)))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid \\
 & \quad np\_2)))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 (k15\_euclid \\
 & \quad np\_2)))) \Rightarrow (k5\_jordan6 X0 X1 X2 X3 X4 = ReplSep (toset (\lambda X5 : \iota. \\
 & \quad m1\_subset\_1 X5 (u1\_struct\_0 (k15\_euclid np\_2)))) (\lambda X5 : \iota. \\
 & \quad (r1\_jordan5c X0 X1 X2 X3 X5) \wedge (r1\_jordan5c X0 X1 X2 X5 X4)) (\lambda X5 : \\
 & \quad \iota.X5))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 (k15\_euclid \\
& np\_2)))) \Rightarrow ((r1\_jordan5c X0 X1 X2 X3 X4) \Leftrightarrow ((X3 \in X0) \wedge ((X4 \in X0) \wedge (\forall X5. \\
& ((v1\_funct\_1 X5) \wedge ((v1\_funct\_2 X5 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 \\
& (k1\_pre\_topc (k15\_euclid np\_2) X0))) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 (u1\_struct\_0 k5\_topmetr) (u1\_struct\_0 (k1\_pre\_topc \\
& (k15\_euclid np\_2) X0)))))) \Rightarrow (\forall X6.(m1\_subset\_1 X6 k1\_numbers) \Rightarrow \\
& (\forall X7.(m1\_subset\_1 X7 k1\_numbers) \Rightarrow (((v3\_tops\_2 X5 k5\_topmetr \\
& (k1\_pre\_topc (k15\_euclid np\_2) X0)) \wedge ((k1\_funct\_1 X5 k6\_numbers = \\
& X1) \wedge ((k1\_funct\_1 X5 np\_1 = X2) \wedge ((k1\_funct\_1 X5 X6 = X3) \wedge ((r1\_xxreal\_0 \\
& k6\_numbers X6) \wedge (r1\_xxreal\_0 X6 np\_1) \wedge ((k1\_funct\_1 X5 X7 = X4) \wedge \\
& ((r1\_xxreal\_0 k6\_numbers X7) \wedge (r1\_xxreal\_0 X7 np\_1)))))))))) \Rightarrow \\
& \quad (r1\_xxreal\_0 X6 X7)))))))))
\end{aligned} \tag{3}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 (k15\_euclid \\
& np\_2)))) \Rightarrow ((r1\_jordan5c X0 X3 X4 X1 X2) \Rightarrow ((X1 \in k5\_jordan6 X0 X3 X4 \\
& \quad X1 X2) \wedge (X2 \in k5\_jordan6 X0 X3 X4 X1 X2))))))
\end{aligned}$$