

t10\_jordan5b (TMC-  
TAogSxkARXMgvDH1xVvmRAaXowWY2c5B)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k1\_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_euclid : \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v5\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v6\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v7\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v8\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $k17\_euclid : \iota \Rightarrow \iota$  be given. Let  $k19\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r3\_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $k5\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v5\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & ((X2 \in k1\_rltopsp1 (k15\_euclid np\_2) X0 X1) \Rightarrow ((X0 = X1) \vee (r2\_jordan3 \\
 & \quad X0 X1 X2 X2))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (((X0 \in k1\_rltopsp1 (k15\_euclid np\_2) X1 X2) \wedge (k18\_euclid X1 = k18\_euclid \\
 & \quad X2)) \Rightarrow (k18\_euclid X0 = k18\_euclid X2))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (X1 \in k1\_rltopsp1 \\ & X0 X1 X2))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (((X0 \in k1\_rltopsp1 (k15\_euclid np\_2) X1 X2) \wedge (k17\_euclid X1 = k17\_euclid \\ & X2)) \Rightarrow (k17\_euclid X0 = k17\_euclid X2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (X0 = k19\_euclid (k17\_euclid X0) (k18\_euclid X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & ((r2\_jordan3 X2 X3 X0 X1) \Rightarrow ((X1 \in k1\_rltopsp1 (k15\_euclid np\_2) \\ & X0 X3) \wedge (X0 \in k1\_rltopsp1 (k15\_euclid np\_2) X2 X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (((X2 \in k1\_rltopsp1 (k15\_euclid np\_2) X0 X1) \wedge (X3 \in k1\_rltopsp1 \\ & (k15\_euclid np\_2) X0 X1)) \Rightarrow ((X0 = X1) \vee (((r2\_jordan3 X0 X1 X2 X3) \vee \\ & (r3\_jordan3 X0 X1 X3 X2)) \wedge (\neg (r2\_jordan3 X0 X1 X2 X3) \wedge (r3\_jordan3 \\ & X0 X1 X3 X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow & ((v2\_pre\_topc\ (k15\_euclid\ X0)) \wedge \\ & ((v13\_algstr\_0\ (k15\_euclid\ X0)) \wedge ((v2\_rlvect\_1\ (k15\_euclid\ X0)) \wedge \\ & ((v3\_rlvect\_1\ (k15\_euclid\ X0)) \wedge ((v4\_rlvect\_1\ (k15\_euclid\ X0)) \wedge \\ & ((v5\_rlvect\_1\ (k15\_euclid\ X0)) \wedge ((v6\_rlvect\_1\ (k15\_euclid\ X0)) \wedge \\ & ((v7\_rlvect\_1\ (k15\_euclid\ X0)) \wedge ((v8\_rlvect\_1\ (k15\_euclid\ X0)) \wedge \\ & (v5\_rltopsp1\ (k15\_euclid\ X0)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow ((-v2\_struct\_0\ (k15\_euclid\ X0)) \wedge (v5\_rltopsp1\ (k15\_euclid\ X0))) \quad (11)$$

Assume the following.

$$\forall X0.(l1\_rltopsp1\ X0) \Rightarrow ((l1\_rlvect\_1\ X0) \wedge (l1\_pre\_topc\ X0)) \quad (12)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow ((v5\_rltopsp1\ (k15\_euclid\ X0)) \wedge (l1\_rltopsp1\ (k15\_euclid\ X0))) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_2))) \Rightarrow & \\ (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_2))) \Rightarrow & \\ (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ np\_2))) \Rightarrow & \\ (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ (k15\_euclid\ np\_2))) \Rightarrow & \\ ((r3\_jordan3\ X0\ X1\ X2\ X3) \Leftrightarrow ((r2\_jordan3\ X0\ X1\ X2\ X3) \wedge (X2 \neq X3)))))) & \\ (14) & \end{aligned}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1) \Rightarrow (v7\_ordinal1\ X0) \quad (15)$$

### Theorem 1

$$\begin{aligned} \forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_2))) \Rightarrow & \\ (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_2))) \Rightarrow & \\ (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ np\_2))) \Rightarrow & \\ ((X0 \in k1\_rltopsp1\ (k15\_euclid\ np\_2)\ X1\ X2) \Rightarrow ((X1 = X2) \vee (r2\_jordan3 & \\ X1\ X2\ X1\ X0)))) & \end{aligned}$$