

# t2\_jordan (TMG- pkG5mUm1zKqkmvh7dad4M2zLssrmLeLA)

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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  $r1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_euclid : \iota \Rightarrow \iota$  be given. Let  $k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k17\_euclid : \iota \Rightarrow \iota$  be given. Let  $k4\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xreal\_0 : \iota \Rightarrow o$  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  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  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  $v5\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((k17\_euclid (k1\_rlvect\_1 (k15\_euclid \\
 & np\_2) X0 X1) = k4\_real\_1 X1 (k17\_euclid X0)) \wedge (k18\_euclid (k1\_rlvect\_1 \\
 & (k15\_euclid np\_2) X0 X1) = k4\_real\_1 X1 (k18\_euclid X0))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k3\_xcmplx\_0 np\_1 X0 = X0) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& ((k17\_euclid (k3\_rvect\_1 (k15\_euclid np\_2) X0 X1) = k7\_real\_1 \\
& (k17\_euclid X0) (k17\_euclid X1)) \wedge (k18\_euclid (k3\_rvect\_1 (k15\_euclid \\
& np\_2) X0 X1) = k7\_real\_1 (k18\_euclid X0) (k18\_euclid X1))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((\neg r1\_xxreal\_0 \\
& X1 X0) \Rightarrow ((\neg r1\_xxreal\_0 (k7\_xcmplx\_0 (k2\_xcmplx\_0 X0 X1) np\_2) \\
& X0) \wedge (\neg r1\_xxreal\_0 X1 (k7\_xcmplx\_0 (k2\_xcmplx\_0 X0 X1) np\_2))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((v1\_xcmplx\_0 X0) \wedge ((v1\_xcmplx\_0 \\
& X1) \wedge (v1\_xcmplx\_0 X2))) \Rightarrow (k3\_xcmplx\_0 X0 (k7\_xcmplx\_0 X1 X2) = k7\_xcmplx\_0 \\
& (k3\_xcmplx\_0 X0 X1) X2)
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\
& ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\
& ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& k4\_xcmplx\_0 (k7\_xcmplx\_0 (k4\_xcmplx\_0 np\_1) np\_2) = k7\_xcmplx\_0 \\
& np\_1 np\_2
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& k4\_xcmplx\_0 (k7\_xcmplx\_0 np\_1 np\_2) = k7\_xcmplx\_0 (k4\_xcmplx\_0 \\
& np\_1) np\_2
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& k3\_xcmplx\_0 (k7\_xcmplx\_0 np\_1 np\_2) np\_1 = k7\_xcmplx\_0 np\_1 np\_2
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& k7\_xcmplx\_0 np\_1 (k4\_xcmplx\_0 np\_2) = k7\_xcmplx\_0 (k4\_xcmplx\_0 \\
& np\_1) np\_2
\end{aligned} \tag{11}$$

Assume the following.

$$k6\_xcmplx\_0 \ np\_1 \ np\_2 = k4\_xcmplx\_0 \ np\_1 \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 \ X0 \ k1\_numbers)\wedge(v1\_xreal\_0 \ X1))\Rightarrow(k7\_real\_1 \ X0 \ X1 = k2\_xcmplx\_0 \ X0 \ X1) \quad (13)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 \ X0)\wedge(m1\_subset\_1 \ X1 \ k1\_numbers))\Rightarrow(k4\_real\_1 \ X0 \ X1 = k3\_xcmplx\_0 \ X0 \ X1) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 \ X0 \ k1\_numbers)\wedge(v1\_xreal\_0 \ X1))\Rightarrow(k10\_real\_1 \ X0 \ X1 = k7\_xcmplx\_0 \ X0 \ X1) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 \ X0)\wedge(v1\_xreal\_0 \ X1))\Rightarrow(v1\_xreal\_0 \ (k7\_xcmplx\_0 \ X0 \ X1)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 \ X0)\wedge(v1\_xreal\_0 \ X1))\Rightarrow(v1\_xreal\_0 \ (k6\_xcmplx\_0 \ X0 \ X1)) \quad (18)$$

Assume the following.

$$v6\_membered \ k4\_ordinal1 \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 \ X0)\Rightarrow & ((v2\_pre\_topc \ (k15\_euclid \ X0))\wedge \\ & ((v13\_algstr\_0 \ (k15\_euclid \ X0))\wedge((v2\_rlvect\_1 \ (k15\_euclid \ X0))\wedge \\ & ((v3\_rlvect\_1 \ (k15\_euclid \ X0))\wedge((v4\_rlvect\_1 \ (k15\_euclid \ X0))\wedge \\ & ((v5\_rlvect\_1 \ (k15\_euclid \ X0))\wedge((v6\_rlvect\_1 \ (k15\_euclid \ X0))\wedge \\ & ((v7\_rlvect\_1 \ (k15\_euclid \ X0))\wedge((v8\_rlvect\_1 \ (k15\_euclid \ X0))\wedge \\ & (v5\_rltopsp1 \ (k15\_euclid \ X0)))))))))) \quad (20) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 \ X0)\wedge(v1\_xreal\_0 \ X1))\Rightarrow(v1\_xreal\_0 \ (k2\_xcmplx\_0 \ X0 \ X1)) \quad (21)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \wedge (v1\_xreal\_0 (k4\_xcmplx\_0 X0))) \quad (22)$$

Assume the following.

$$v3\_membered\ k1\_numbers \quad (23)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (24)$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1 X0) \Rightarrow (l2\_algstr\_0 X0) \quad (25)$$

Assume the following.

$$\forall X0.(l1\_rltopsp1 X0) \Rightarrow ((l1\_rlvect\_1 X0) \wedge (l1\_pre\_topc X0)) \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (m1\_subset\_1 X1\ k1\_numbers)) \Rightarrow (m1\_subset\_1 (k4\_real\_1 X0\ X1)\ k1\_numbers) \quad (27)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2\_rlvect\_1 X0) \wedge (l1\_algstr\_0 X0)) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 (k3\_rlvect\_1 X0\ X1\ X2) (u1\_struct\_0 X0)) \quad (28)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid\ np\_2))) \Rightarrow (m1\_subset\_1 (k18\_euclid\ X0)\ k1\_numbers) \quad (29)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow ((v5\_rltopsp1 (k15\_euclid\ X0)) \wedge (l1\_rltopsp1 (k15\_euclid\ X0))) \quad (30)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (m1\_subset\_1 X1\ k1\_numbers)) \Rightarrow (k4\_real\_1 X0\ X1 = k4\_real\_1 X1\ X0) \quad (31)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (k3\_xcmplx\_0 X0\ X1 = k3\_xcmplx\_0 X1\ X0) \quad (32)$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(v1\_membered\ X0) \quad (33)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xcmplx\_0\ X0) \quad (34)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \quad (35)$$

Assume the following.

$$\forall X0.(v6\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v7\_ordinal1\ X1)) \quad (36)$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v1\_xreal\_0\ X1)) \quad (37)$$

Assume the following.

$$\forall X0.(v1\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v1\_xcmplx\_0\ X1)) \quad (38)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_2)))\Rightarrow \\ & (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_2)))\Rightarrow \\ & (\neg(\neg r1\_xreal\_0\ (k18\_euclid\ X1)\ (k18\_euclid\ X0))\wedge(r1\_xreal\_0 \\ & (k18\_euclid\ (k1\_rlvect\_1\ (k15\_euclid\ np\_2)\ (k3\_rlvect\_1\ (k15\_euclid \\ & np\_2)\ X0\ X1)\ (k10\_real\_1\ np\_1\ np\_2)))\ (k18\_euclid\ X0)))) \end{aligned}$$