

## l162\_jordan

(TMT1g63ESDFFxPsM77y36uRiD4QjfoMwMdq)

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Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k19\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_sppol\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (1)$$

Assume the following.

$$((v2\_xxreal\_0 np\_3) \wedge (m2\_subset\_1 np\_3 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_3 k5\_numbers) \wedge (m1\_subset\_1 np\_3 k1\_numbers)) \quad (2)$$

Assume the following.

$$((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \quad (3)$$

Assume the following.

$$((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \quad (4)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (5)$$

Assume the following.

$$\begin{aligned}
& r1\_tarSKI (k1\_rltopsp1 (k15\_euclid np\_2) (k19\_euclid (k1\_real\_1 \\
& np\_1) (k1\_real\_1 np\_3)) (k19\_euclid k6\_numbers (k1\_real\_1 np\_3))) \\
& (k1\_rltopsp1 (k15\_euclid np\_2) (k19\_euclid (k1\_real\_1 np\_1) \\
& (k1\_real\_1 np\_3)) (k19\_euclid np\_1 (k1\_real\_1 np\_3)))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& r1\_tarSKI (k1\_rltopsp1 (k15\_euclid np\_2) (k19\_euclid np\_1 ( \\
& k1\_real\_1 np\_3)) (k19\_euclid (k1\_real\_1 np\_1) (k1\_real\_1 np\_3))) \\
& (k1\_sppol\_2 (k1\_real\_1 np\_1) np\_1 (k1\_real\_1 np\_3) np\_3)
\end{aligned} \tag{7}$$

Assume the following.

$$v6\_membered k4\_ordinal1 \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow ((v2\_pre\_topc (k15\_euclid X0)) \wedge \\
& ((v13\_algstr\_0 (k15\_euclid X0)) \wedge ((v2\_rlvect\_1 (k15\_euclid X0)) \wedge \\
& ((v3\_rlvect\_1 (k15\_euclid X0)) \wedge ((v4\_rlvect\_1 (k15\_euclid X0)) \wedge \\
& ((v5\_rlvect\_1 (k15\_euclid X0)) \wedge ((v6\_rlvect\_1 (k15\_euclid X0)) \wedge \\
& ((v7\_rlvect\_1 (k15\_euclid X0)) \wedge ((v8\_rlvect\_1 (k15\_euclid X0)) \wedge \\
& (v5\_rltopsp1 (k15\_euclid X0))))))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow ((\neg v2\_struct\_0 (k15\_euclid X0)) \wedge \\
& (v5\_rltopsp1 (k15\_euclid X0)))
\end{aligned} \tag{10}$$

Assume the following.

$$\forall X0.(l1\_rltopsp1 X0) \Rightarrow ((l1\_rlvect\_1 X0) \wedge (l1\_pre\_topc X0)) \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (m1\_subset\_1 (k1\_real\_1 \\
& X0) k1\_numbers)
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (m1\_subset\_1 \\
& (k19\_euclid X0 X1) (u1\_struct\_0 (k15\_euclid np\_2)))
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow ((v5\_rltopsp1 (k15\_euclid X0)) \wedge \\
& (l1\_rltopsp1 (k15\_euclid X0)))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(v13\_algstr\_0 \\ & X0)\wedge(v2\_rlvect\_1 X0)\wedge(v3\_rlvect\_1 X0)\wedge(v4\_rlvect\_1 X0)\wedge \\ & ((v5\_rlvect\_1 X0)\wedge(v6\_rlvect\_1 X0)\wedge(v7\_rlvect\_1 X0)\wedge(v8\_rlvect\_1 \\ & X0)\wedge(l1\_rlvect\_1 X0))))))\wedge((m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0))\wedge(m1\_subset\_1 X2 (u1\_struct\_0 X0)))\Rightarrow(k1\_rltopsp1 X0 X1 X2 = \\ & k1\_rltopsp1 X0 X2 X1) \end{aligned} \tag{15}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \tag{16}$$

Assume the following.

$$\forall X0.(v6\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow (v7\_ordinal1 X1)) \tag{17}$$

**Theorem 1**

$$\begin{aligned} & r1\_tarski (k1\_rltopsp1 (k15\_euclid np\_2) (k19\_euclid (k1\_real\_1 \\ & np\_1) (k1\_real\_1 np\_3)) (k19\_euclid k6\_numbers (k1\_real\_1 np\_3))) \\ & (k1\_sppol\_2 (k1\_real\_1 np\_1) np\_1 (k1\_real\_1 np\_3) np\_3) \end{aligned}$$