

## t10\_jordan24

(TMcGAQLYpNRa1cuxE8bQxf4NBD9p3Q4thiu)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  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  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_tops\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_connsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
 & X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge (l1\_pre\_topc \\
 & X1)))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 \\
 & X0) (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
 & (u1\_struct\_0 X0) (u1\_struct\_0 X1)))))) \Rightarrow (\forall X3.(m1\_subset\_1 \\
 & X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (((v5\_pre\_topc X2 X0 X1) \wedge ( \\
 & v2\_connsp\_1 X3 X0)) \Rightarrow (v2\_connsp\_1 (k7\_relset\_1 (u1\_struct\_0 X0) \\
 & (u1\_struct\_0 X1) X2 X3) X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((l1\_pre\_topc X0) \wedge (l1\_pre\_topc X1)) \Rightarrow ( \\
 & \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
 & X0) (u1\_struct\_0 X1)))) \Rightarrow (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 \\
 & X0) (u1\_struct\_0 X1)) \wedge (v3\_tops\_2 X2 X0 X1))) \Rightarrow ((v1\_funct\_1 X2) \wedge \\
 & ((v2\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 \\
 & X1)) \wedge ((v2\_funct\_2 X2 (u1\_struct\_0 X1)) \wedge (v5\_pre\_topc X2 X0 X1))))))
 \end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge (l1\_pre\_topc \\ & X1)))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (u1\_struct\_0 X0) (u1\_struct\_0 X1)))))) \Rightarrow ((v3\_tops\_2 X2 X0 X1) \Rightarrow \\ & (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\ & ((v2\_connsp\_1 X3 X0) \Rightarrow (v2\_connsp\_1 (k7\_relset\_1 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X1) X2 X3) X1)))))) \end{aligned}$$