

# t29\_compl\_sp (TMdMBr- CVwBbfk7snvdNSfoKidbNXzHmUCJx)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v7\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v8\_compl\_sp : \iota \Rightarrow o$  be given. 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  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v4\_card\_3 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k2\_topgen\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge ((v7\_pre\_topc \\ &X0) \wedge (l1\_pre\_topc X0)))) \Rightarrow ((v8\_compl\_sp X0) \Leftrightarrow (\forall X1. (m1\_subset\_1 \\ &X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\neg(\neg v1\_finset\_1 X1) \wedge (v1\_xboole\_0 \\ &(k2\_topgen\_1 X0 X1))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge ((v7\_pre\_topc \\ &X0) \wedge (l1\_pre\_topc X0)))) \Rightarrow ((\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ &(u1\_struct\_0 X0))) \Rightarrow (\neg(\neg v1\_finset\_1 X1) \wedge ((v4\_card\_3 X1) \wedge (v1\_xboole\_0 \\ &(k2\_topgen\_1 X0 X1))))) \Rightarrow (v8\_compl\_sp X0)) \end{aligned} \tag{2}$$

## Theorem 1

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge ((v7\_pre\_topc \\ &X0) \wedge (l1\_pre\_topc X0)))) \Rightarrow ((v8\_compl\_sp X0) \Leftrightarrow (\forall X1. (m1\_subset\_1 \\ &X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\neg(\neg v1\_finset\_1 X1) \wedge ((v4\_card\_3 \\ &X1) \wedge (v1\_xboole\_0 (k2\_topgen\_1 X0 X1))))) \end{aligned}$$