

# t13\_connsp\_3 (TMLfXW- mAC8Dq2gDz4jc8dFNiy3HsqmAMxQC)

October 27, 2020

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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v2\_connsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k1\_connsp\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow ((\exists X2. \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \wedge ((v2\_connsp\_1 \\ & X2 X0) \wedge (r1\_tarski X1 X2)))) \Rightarrow (r1\_tarski X1 (k1\_connsp\_3 X0 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (((v2\_connsp\_1 X1 X0) \wedge ((v2\_connsp\_1 X2 X0) \wedge (r1\_tarski \\ & X1 X2))) \Rightarrow ((X1 = k1\_xboole\_0) \vee (k1\_connsp\_3 X0 X1 = k1\_connsp\_3 X0 \\ & X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 X0 \quad (3)$$

## Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (((v2\_connsp\_1 X1 X0) \wedge ((v2\_connsp\_1 X2 X0) \wedge (r1\_tarski \\ & X1 X2))) \Rightarrow ((X1 = k1\_xboole\_0) \vee (r1\_tarski X2 (k1\_connsp\_3 X0 X1)))))) \end{aligned}$$