

t10\_connsp\_3 (TMb-  
civY63U2X9BBEtAVYDqKDDs1WbczVnYh)

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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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v3\_connsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  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. Let  $k3\_tarSKI : \iota \Rightarrow \iota$  be given. Let  $k5\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (r1\_tarSKI X0 (k3\_tarSKI X1)) \quad (1)$$

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 X0))) \Rightarrow (k5\_setfam\_1 X0 X1 = k3\_tarSKI X1) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((l1\_pre\_topc X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 (k1\_connsp\_3 X0 X1) (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \Rightarrow ((v3\_connsp\_1 X1 X0) \Leftrightarrow ((v2\_connsp\_1 X1 X0) \wedge \\ & (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\ & (((v2\_connsp\_1 X2 X0) \wedge (r1\_tarSKI X1 X2)) \Rightarrow (X1 = X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\
& \quad (u1\_struct\_0\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1 \\
& \quad (u1\_struct\_0\ X0))) \Rightarrow ((X2 = k1\_connsp\_3\ X0\ X1) \Leftrightarrow (\exists X3.(m1\_subset\_1 \\
& \quad X3\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \wedge ((\forall X4. \\
& \quad (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow ((X4 \in X3) \Leftrightarrow (( \\
& \quad v2\_connsp\_1\ X4\ X0) \wedge (r1\_tarSKI\ X1\ X4)))) \wedge (k5\_setfam\_1\ (u1\_struct\_0 \\
& \quad X0)\ X3 = X2))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow ((v3\_connsp\_1\ X1\ X0) \Rightarrow (v2\_connsp\_1\ X1\ X0))) \tag{7}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc \\
& \quad X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0 \\
& \quad X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0 \\
& \quad X0))) \Rightarrow (((v3\_connsp\_1\ X1\ X0) \wedge ((v2\_connsp\_1\ X2\ X0) \wedge (r1\_tarSKI \\
& \quad X2\ X1))) \Rightarrow ((X2 = k1\_xboole\_0) \vee (X1 = k1\_connsp\_3\ X0\ X2))))))
\end{aligned}$$