

t13\_pcomps\_1  
(TMSZbfyfqhBhX4e1pcPzAFK3mhQ1UAzT9cd)

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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  $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_pcomps\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow (k6\_domain\_1 X0 X1 = k1\_tarski X1) \quad (2)$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k1\_zfmisc\_1 X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow (m1\_subset\_1 (k6\_domain\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((l1\_pre\_topc X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 (k2\_pre\_topc X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. (l1\_pre\_topc X0) \Rightarrow & (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow ((X2 = k1\_pcomps\_1 \\ & X0 X1) \Leftrightarrow (\forall X3. (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0)))) \Rightarrow ((X3 \in X2) \Leftrightarrow (\exists X4. (m1\_subset\_1 X4 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0)))) \wedge ((X3 = k2\_pre\_topc X0 X4) \wedge (X4 \in X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (7)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0 \\ & X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1 \\ & (u1\_struct\_0\ X0)))) \Rightarrow ((X2 = k6\_domain\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0 \\ & X0))\ X1) \Rightarrow (k1\_pcomps\_1\ X0\ X2 = k6\_domain\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0 \\ & X0))\ (k2\_pre\_topc\ X0\ X1)))))) \end{aligned}$$