

# t22\_pcomps\_1 (TMVjQXmnZUZehHaB- jDZRAdYh1TbyXozFkrj)

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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  $v1\_compts\_1 : \iota \Rightarrow o$  be given. Let  $v2\_pcomps\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $r1\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_pcomps\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_tops\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  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.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Rightarrow (r1\_setfam\_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow ((v1\_finset\_1 X1) \Rightarrow (v1\_pcomps\_1 X1 X0))) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. r1\_setfam\_1 X0 X0 \quad (6)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1\_pre\_topc\ X0) \Rightarrow ((v2\_pcomps\_1\ X0) \Leftrightarrow (\forall X1.( \\
& m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow \\
& (\neg(m1\_setfam\_1\ X1\ (u1\_struct\_0\ X0)) \wedge ((v1\_tops\_2\ X1\ X0) \wedge (\forall X2. \\
& (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow \\
& (\neg(v1\_tops\_2\ X2\ X0) \wedge ((m1\_setfam\_1\ X2\ (u1\_struct\_0\ X0)) \wedge ((r1\_setfam\_1 \\
& X2\ X1) \wedge (v1\_pcomps\_1\ X2\ X0))))))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow ((v1\_tops\_2\ X1\ X0) \Leftrightarrow (\forall X2. \\
& (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow ((X2 \in X1) \Rightarrow (v3\_pre\_topc \\
& X2\ X0))))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1\_pre\_topc\ X0) \Rightarrow ((v1\_compts\_1\ X0) \Leftrightarrow (\forall X1.( \\
& m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow \\
& (\neg(m1\_setfam\_1\ X1\ (u1\_struct\_0\ X0)) \wedge ((v1\_tops\_2\ X1\ X0) \wedge (\forall X2. \\
& (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow \\
& (\neg(r1\_tarSKI\ X2\ X1) \wedge ((m1\_setfam\_1\ X2\ (u1\_struct\_0\ X0)) \wedge (v1\_finset\_1 \\
& X2))))))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (v1\_finset\_1\ X0) \tag{10}$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0))) \Rightarrow ((v1\_compts\_1\ X0) \Rightarrow (v2\_pcomps\_1\ X0))$$