

t9\_compts\_1  
(TMSY7eT68UtnQXEKUq9aXtP3UB1xp5r21Gu)

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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  $v2\_compts\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarSKI : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_compts\_1 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_pre\_topc : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))) \Rightarrow (((v1\_compts\_1 X0) \wedge (v4\_pre\_topc X1 X0)) \Rightarrow \\ (v2\_compts\_1 X1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))) \Rightarrow (((X1 = k1\_xboole\_0) \Rightarrow ((v2\_compts\_1 X1 X0) \Leftrightarrow \\ (v1\_compts\_1 (k1\_pre\_topc X0 X1)))) \wedge ((v2\_pre\_topc X0) \Rightarrow ((X1 = \\ k1\_xboole\_0) \vee ((v2\_compts\_1 X1 X0) \Leftrightarrow (v1\_compts\_1 (k1\_pre\_topc \\ X0 X1))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.(m1\_pre\_topc X1 X0) \Rightarrow \\ (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\ ((r1\_tarSKI X2 (k2\_struct\_0 X1)) \Rightarrow ((v2\_compts\_1 X2 X0) \Leftrightarrow (\forall X3. \\ (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X1))) \Rightarrow ((X3 = X2) \Rightarrow (v2\_compts\_1 \\ X3 X1))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))) \Rightarrow (\forall X2.(m1\_pre\_topc X2 X0) \Rightarrow ((v4\_pre\_topc \\ X1 X0) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 \\ X2))) \Rightarrow ((X3 = X1) \Rightarrow (v4\_pre\_topc X3 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(\forall X1.(m1\_pre\_topc\ X1\ X0)\Rightarrow(l1\_pre\_topc\ X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((l1\_pre\_topc\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((v1\_pre\_topc\ (k1\_pre\_topc\ X0\ X1))\wedge(m1\_pre\_topc\ (k1\_pre\_topc\ X0\ X1)\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(\forall X2.((v1\_pre\_topc\ X2)\wedge(m1\_pre\_topc\ X2\ X0))\Rightarrow((X2 = k1\_pre\_topc\ X0\ X1)\Leftrightarrow(k2\_struct\_0\ X2 = X1)))) \quad (7)$$

**Theorem 1**

$$\forall X0.((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(((v2\_compts\_1\ X1\ X0)\wedge((r1\_tarski\ X2\ X1)\wedge(v4\_pre\_topc\ X2\ X0)))\Rightarrow(v2\_compts\_1\ X2\ X0))))))$$