

## t1\_tops\_4

(TMM8BTVDdxKsa98Bho9rud9HUGwa9kX8WUF)

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Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $g1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Let  $v1\_t0topsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ X0))) \Rightarrow (\forall X2. \forall X3. (g1\_pre\_topc X0 X1 = g1\_pre\_topc \\ X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (l1\_pre\_topc X0) \Rightarrow (m1\_subset\_1 (u1\_pre\_topc X0) (k1\_zfmisc\_1 \\ (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. (m1\_subset\_1 X2 ( \\ k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (m1\_subset\_1 (k7\_relset\_1 \\ X0 X1 X2 X3) (k1\_zfmisc\_1 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (l1\_pre\_topc X1) \Rightarrow (\forall X2. \\ ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 \\ X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\ X0) (u1\_struct\_0 X1)))))) \Rightarrow ((v1\_t0topsp X2 X0 X1) \Leftrightarrow (\forall X3. \\ (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow ((v3\_pre\_topc \\ X3 X0) \Rightarrow (v3\_pre\_topc (k7\_relset\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\ X1) X2 X3) X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))) \Rightarrow ((v3\_pre\_topc X1 X0) \Leftrightarrow (X1 \in u1\_pre\_topc X0))) \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\Rightarrow(\forall X1. \\ & ((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1))\Rightarrow(\forall X2.((v2\_pre\_topc \\ & X2)\wedge(l1\_pre\_topc\ X2))\Rightarrow(\forall X3.((v2\_pre\_topc\ X3)\wedge(l1\_pre\_topc \\ & X3))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (u1\_struct\_0 \\ & X0)\ (u1\_struct\_0\ X2))\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X2))))))\Rightarrow(\forall X5.((v1\_funct\_1 \\ & X5)\wedge((v1\_funct\_2\ X5\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3))\wedge(m1\_subset\_1 \\ & X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3))))))\Rightarrow \\ & (((g1\_pre\_topc\ (u1\_struct\_0\ X0)\ (u1\_pre\_topc\ X0) = g1\_pre\_topc \\ & (u1\_struct\_0\ X1)\ (u1\_pre\_topc\ X1))\wedge((g1\_pre\_topc\ (u1\_struct\_0 \\ & X2)\ (u1\_pre\_topc\ X2) = g1\_pre\_topc\ (u1\_struct\_0\ X3)\ (u1\_pre\_topc \\ & X3))\wedge((X4 = X5)\wedge(v1.t.0topsp\ X4\ X0\ X2)))\Rightarrow(v1.t.0topsp\ X5\ X1\ X3)))))) \end{aligned}$$