

t41\_tops\_1  
(TMdM8GLq1DaivcnCbBYP4Sc81UvEAo76zWF)

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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  $k2\_tops\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k7\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tops\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. k4\_xboole\_0 X0 k1\_xboole\_0 = X0 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k7\_subset\_1 X0 X1 X2 = k4\_xboole\_0 X1 X2) \quad (2)$$

Assume the following.

$$\forall X0. ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (k1\_tops\_1 X0 (k2\_tops\_1 X0 (k2\_tops\_1 X0 X1)) = k1\_xboole\_0)) \quad (3)$$

Assume the following.

$$\forall X0. ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (k2\_pre\_topc X0 (k2\_tops\_1 X0 X1) = k2\_tops\_1 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (k2\_tops\_1 X0 X1 = k7\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc X0 X1) (k1\_tops\_1 X0 X1))) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((l1\_pre\_topc X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 (k2\_tops\_1 X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (6)$$

**Theorem 1**

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