

# t20\_topalg\_6 (TMXRFmsnknYbGMsvfN- TkC9KrgodV1874yBA)

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Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v4\_topalg\_6 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_topalg\_2 : \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_topalg\_6 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k3\_topmetr : \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (X2 \in k4\_partfun1 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (3)$$

Assume the following.

$$u1\_struct\_0 k3\_topmetr = k1\_numbers \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (5)$$

Assume the following.

$$k2\_topalg\_2 = k3\_topmetr \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. \neg v1\_xboole\_0 (k4\_partfun1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(l1\_struct\_0\ X0) \quad (8)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(m1\_subset\_1\ (k1\_topalg\_6\ X0)\ (k1\_zfmisc\_1\ (k4\_partfun1\ k1\_numbers\ (k2\_struct\_0\ X0)))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc\ X0)\Rightarrow(k1\_topalg\_6\ X0 = \text{ReplSep}\ (\text{toset}\ ( \\ \lambda X1 : \iota.m1\_subset\_1\ X1\ (k4\_partfun1\ k1\_numbers\ (k2\_struct\_0 \\ X0))))\ (\lambda X1 : \iota.(v1\_funct\_1\ X1)\wedge((v4\_topalg\_6\ X1\ X0)\wedge(m1\_subset\_1 \\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ k2\_topalg\_2)\ (u1\_struct\_0 \\ X0))))))\ (\lambda X1 : \iota.X1)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow(k2\_struct\_0\ X0 = u1\_struct\_0\ X0) \quad (11)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(l1\_pre\_topc\ X0)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge(( \\ v4\_topalg\_6\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ (u1\_struct\_0\ k2\_topalg\_2)\ (u1\_struct\_0\ X0))))))\Rightarrow(m2\_subset\_1 \\ X1\ (k4\_partfun1\ k1\_numbers\ (k2\_struct\_0\ X0))\ (k1\_topalg\_6\ X0))) \end{aligned}$$