t15_topalg_3 (TMWNo2hxrUvVgPNLv97iBdnnEMBtYpvvTfX)

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Let $v2\_pre\_topc : \iota \Rightarrow o$ be given. Let $l1\_pre\_topc : \iota \Rightarrow o$ be given. Let $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_borsuk\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_borsuk\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_pre\_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (((v4\_pre\_topc\ X1\ X0) \Rightarrow (k2\_pre\_topc\ X0\ X1 = X1)) \wedge (((v2\_pre\_topc\ X0) \wedge (k2\_pre\_topc\ X0\ X1 = X1)) \Rightarrow (v4\_pre\_topc\ X1\ X0)))) \tag{1}$$

Assume the following.

$$\forall X0.((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0)) \Rightarrow (\forall X1.((v2\_pre\_topc\ X1) \wedge (l1\_pre\_topc\ X1)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))) \Rightarrow (k2\_pre\_topc\ (k2\_borsuk\_1\ X0\ X1)\ (k3\_borsuk\_1\ X0\ X1\ X2\ X3) = k3\_borsuk\_1\ X0\ X1\ (k2\_pre\_topc\ X0\ X2)\ (k2\_pre\_topc\ X1\ X3))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0)) \wedge (((v2\_pre\_topc\ X1) \wedge (l1\_pre\_topc\ X1)) \wedge ((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1)))))) \Rightarrow (m1\_subset\_1\ (k3\_borsuk\_1\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k2\_borsuk\_1\ X0\ X1)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0)) \wedge ((v2\_pre\_topc\ X1) \wedge (l1\_pre\_topc\ X1))) \Rightarrow ((v1\_pre\_topc\ (k2\_borsuk\_1\ X0\ X1)) \wedge ((v2\_pre\_topc\ (k2\_borsuk\_1\ X0\ X1)) \wedge (l1\_pre\_topc\ (k2\_borsuk\_1\ X0\ X1)))) \tag{4}$$

Theorem 1

$$\forall X0.((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\Rightarrow(\forall X1.((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1))\Rightarrow(\forall X2.((v4\_pre\_topc\ X2\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(\forall X3.((v4\_pre\_topc\ X3\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))))\Rightarrow(v4\_pre\_topc\ (k3\_borsuk\_1\ X0\ X1\ X2\ X3)\ (k2\_borsuk\_1\ X0\ X1)))))$$