

# l26\_simplex0

(TMN9BybNk6ZXuqJCjpJQWtKZMSnj6PFVR5R)

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Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_simplex0 : \iota \Rightarrow \iota$  be given. Let  $v4\_simplex0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v2\_setfam\_1 : \iota \Rightarrow o$  be given. Let  $v1\_simplex0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

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.

$$\forall X0. (l1\_pre\_topc X0) \Rightarrow (m1\_subset\_1 (k4\_simplex0 X0) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (3)$$

Assume the following.

$$\forall X0. (l1\_pre\_topc X0) \Rightarrow ((v4\_simplex0 X0) \Leftrightarrow (v2\_setfam\_1 (u1\_pre\_topc X0))) \quad (4)$$

Assume the following.

$$\forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow ((X1 = k4\_simplex0 X0) \Leftrightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((X2 \in X1) \Leftrightarrow (v1\_simplex0 X2 X0)))))) \quad (5)$$

Assume the following.

$$\forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((v1\_simplex0 X1 X0) \Leftrightarrow (\exists X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \wedge ((v3\_pre\_topc X2 X0) \wedge (X1 \in X2)))))) \quad (6)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow ((v3\_pre\_topc\ X1\ X0) \Leftrightarrow (X1 \in u1\_pre\_topc\ X0))) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Leftrightarrow (\forall X1.\neg X1 \in X0) \quad (8)$$

Assume the following.

$$\forall X0.(v2\_setfam\_1\ X0) \Leftrightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\neg X1 \in X0)) \quad (9)$$

**Theorem 1**

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow ((v1\_xboole\_0\ (k4\_simplex0\ X0)) \Leftrightarrow (v4\_simplex0\ X0))$$