t40_simplex0 (TMVFGJsB-hgxmP6PWMMRVsS65rGRZBbLogL3)

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Let $v1\_matroid0 : \iota \Rightarrow o$ be given. Let $v3\_matroid0 : \iota \Rightarrow o$ be given. Let $m1\_simplex0 : \iota \Rightarrow \iota \Rightarrow o$ 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 $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_simplex0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_simplex0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_pre\_topc : \iota \Rightarrow \iota$ be given. Let $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_setfam\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_pre\_topc : \iota \Rightarrow o$ be given. Let $v1\_pre\_topc : \iota \Rightarrow o$ be given. Let $v7\_simplex0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_struct\_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Rightarrow (r1\_tarski\ (k1\_zfmisc\_1\ X0)\ (k1\_zfmisc\_1\ X1)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_matroid0\ X1) \wedge ((v3\_matroid0\ X1) \wedge (m1\_simplex0\ X1\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))) \Rightarrow (u1\_pre\_topc\ (k7\_simplex0\ X0\ X1\ X2) = k9\_subset\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))\ (k9\_setfam\_1\ X2)\ (u1\_pre\_topc\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((r1\_tarski\ X0\ X1) \wedge (r1\_tarski\ X2\ X3)) \Rightarrow (r1\_tarski\ (k3\_xboole\_0\ X0\ X2)\ (k3\_xboole\_0\ X1\ X3)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)) \Rightarrow (k9\_subset\_1\ X0\ X1\ X2 = k3\_xboole\_0\ X1\ X2) \tag{5}$$

Assume the following.

$$\forall X0.k9\_setfam\_1\ X0 = k1\_zfmisc\_1\ X0 \tag{6}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (m1\_subset\_1\ (u1\_pre\_topc\ X0)\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_simplex0\ X1\ X0) \Rightarrow (\forall X2.(m2\_simplex0\ X2\ X0\ X1) \Rightarrow ((v1\_matroid0\ X2) \wedge ((v3\_matroid0\ X2) \wedge (m1\_simplex0\ X2\ X0)))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_simplex0\ X1\ X0) \Rightarrow (l1\_pre\_topc\ X1) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_matroid0\ X1) \wedge (m1\_simplex0\ X1\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1)))) \Rightarrow ((v1\_pre\_topc\ (k7\_simplex0\ X0\ X1\ X2)) \wedge ((v7\_simplex0\ (k7\_simplex0\ X0\ X1\ X2)\ X0\ X1) \wedge (m2\_simplex0\ (k7\_simplex0\ X0\ X1\ X2)\ X0\ X1))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_matroid0\ X1) \wedge ((v3\_matroid0\ X1) \wedge (m1\_simplex0\ X1\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))) \Rightarrow (\forall X3.((v1\_pre\_topc\ X3) \wedge ((v7\_simplex0\ X3\ X0\ X1) \wedge (m2\_simplex0\ X3\ X0\ X1))) \Rightarrow ((X3 = k7\_simplex0\ X0\ X1\ X2) \Leftrightarrow (k2\_struct\_0\ X3 = X2)))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_simplex0\ X1\ X0) \Rightarrow (\forall X2.((v1\_matroid0\ X2) \wedge ((v3\_matroid0\ X2) \wedge (m1\_simplex0\ X2\ X0))) \Rightarrow ((m2\_simplex0\ X2\ X0\ X1) \Leftrightarrow ((r1\_tarski\ (k2\_struct\_0\ X2)\ (k2\_struct\_0\ X1)) \wedge (r1\_tarski\ (u1\_pre\_topc\ X2)\ (u1\_pre\_topc\ X1))))) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X1 = k3\_xboole\_0\ X1\ X0 \tag{13}$$

Theorem 1

$$\forall X0.\forall X1.((v1\_matroid0\ X1) \wedge ((v3\_matroid0\ X1) \wedge (m1\_simplex0\ X1\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))) \Rightarrow ((r1\_tarski\ X2\ X3) \Rightarrow (m2\_simplex0\ (k7\_simplex0\ X0\ X1\ X2)\ X0\ (k7\_simplex0\ X0\ X1\ X3)))))$$