

t34\_simplex0  
(TMPYj9gLvGqJMvb4GkHBdMcFaEjTB98DRCP)

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Let  $m1\_simplex0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_simplex0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_simplex0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_matroid0 : \iota \Rightarrow o$  be given. Let  $v3\_matroid0 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $k2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_simplex0 X1 X0) \Rightarrow (\forall X2. (m2\_simplex0 X2 X0 X1) \Rightarrow (\forall X3. (m2\_simplex0 X3 X0 X2) \Rightarrow (m2\_simplex0 X3 X0 X1))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_simplex0 X1 X0) \Rightarrow (\forall X2. (m2\_simplex0 X2 X0 X1) \Rightarrow ((v1\_matroid0 X2) \wedge ((v3\_matroid0 X2) \wedge (m1\_simplex0 X2 X0)))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_simplex0 X1 X0) \Rightarrow (l1\_pre\_topc X1) \quad (5)$$

Assume the following.

$$\forall X0. (l1\_pre\_topc X0) \Rightarrow (l1\_struct\_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.(l1\_struct\_0 X0) \Rightarrow (k2\_struct\_0 X0 = u1\_struct\_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow ((v3\_pre\_topc X1 X0) \Leftrightarrow (X1 \in u1\_pre\_topc X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_simplex0 X1 X0) \Rightarrow (\forall X2.(m2\_simplex0 X2 X0 X1) \Rightarrow ((v7\_simplex0 X2 X0 X1) \Leftrightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X2))) \Rightarrow ((X3 \in u1\_pre\_topc X1) \Rightarrow (v3\_pre\_topc X3 X2)))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_simplex0 X1 X0) \Rightarrow (\forall X2.((v1\_matroid0 X2) \wedge ((v3\_matroid0 X2) \wedge (m1\_simplex0 X2 X0))) \Rightarrow ((m2\_simplex0 X2 X0 X1) \Leftrightarrow ((r1\_tarski (k2\_struct\_0 X2) (k2\_struct\_0 X1)) \wedge (r1\_tarski (u1\_pre\_topc X2) (u1\_pre\_topc X1)))))) \quad (10)$$

**Theorem 1**

$$\forall X0.\forall X1.(m1\_simplex0 X1 X0) \Rightarrow (\forall X2.(m2\_simplex0 X2 X0 X1) \Rightarrow (\forall X3.(m2\_simplex0 X3 X0 X2) \Rightarrow (((v7\_simplex0 X2 X0 X1) \wedge (v7\_simplex0 X3 X0 X2)) \Rightarrow ((v7\_simplex0 X3 X0 X1) \wedge (m2\_simplex0 X3 X0 X1))))))$$