

t37_simplex0 (TMdYoQcDNdZyKb- CiGTA5XC61Qga2we6PD5Y)

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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 $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $k7_simplex0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ 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.

$$\begin{aligned} & \forall X0. \forall X1. (m1_simplex0 X1 X0) \Rightarrow (\forall X2. (m2_simplex0 \\ & X2 X0 X1) \Rightarrow ((v7_simplex0 X2 X0 X1) \Leftrightarrow (r1_tarski (k9_subset_1 (k1_zfmisc_1 \\ & (u1_struct_0 X1)) (k9_setfam_1 (k2_struct_0 X2)) (u1_pre_topc \\ & X1)) (u1_pre_topc X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1_tarski X0 X1) \wedge (r1_tarski X0 X2)) \Rightarrow (r1_tarski X0 (k3_xboole_0 X1 X2)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0. k9_setfam_1 X0 = k1_zfmisc_1 X0 \quad (5)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (m1_subset_1 (u1_pre_topc X0) (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_simplex0\ X1\ X0)\Rightarrow(\forall X2.(m2_simplex0\ X2\ X0\ X1)\Rightarrow((v1_matroid0\ X2)\wedge((v3_matroid0\ X2)\wedge(m1_simplex0\ X2\ X0)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_simplex0\ X1\ X0)\Rightarrow(l1_pre_topc\ X1) \quad (8)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(l1_struct_0\ X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1_matroid0\ X1)\wedge(m1_simplex0\ X1\ X0))\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X1))))\Rightarrow((v1_pre_topc\ (k7_simplex0\ X0\ X1\ X2))\wedge((v7_simplex0\ (k7_simplex0\ X0\ X1\ X2)\ X0\ X1)\wedge(m2_simplex0\ (k7_simplex0\ X0\ X1\ X2)\ X0\ X1))) \quad (10)$$

Assume the following.

$$\forall X0.(l1_struct_0\ X0)\Rightarrow(k2_struct_0\ X0 = u1_struct_0\ X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v1_matroid0\ X1)\wedge((v3_matroid0\ X1)\wedge(m1_simplex0\ X1\ X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X1))))\Rightarrow(\forall X3.((v1_pre_topc\ X3)\wedge((v7_simplex0\ X3\ X0\ X1)\wedge(m2_simplex0\ X3\ X0\ X1))))\Rightarrow((X3 = k7_simplex0\ X0\ X1\ X2)\Leftrightarrow(k2_struct_0\ X3 = X2))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1_simplex0\ X1\ X0)\Rightarrow(\forall X2.((v1_matroid0\ X2)\wedge((v3_matroid0\ X2)\wedge(m1_simplex0\ X2\ X0)))\Rightarrow((m2_simplex0\ X2\ X0\ X1)\Leftrightarrow((r1_tarski\ (k2_struct_0\ X2)\ (k2_struct_0\ X1))\wedge(r1_tarski\ (u1_pre_topc\ X2)\ (u1_pre_topc\ X1)))))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski\ X0\ X1)\wedge(r1_tarski\ X1\ X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0\ X0\ X1 = k3_xboole_0\ X1\ X0 \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. ((v1_matroid0\ X1) \wedge ((v3_matroid0\ X1) \wedge \\ & \quad m1_simplex0\ X1\ X0))) \Rightarrow (\forall X2. (m1_subset_1\ X2\ (k1_zfmisc_1 \\ (u1_struct_0\ X1))) \Rightarrow (u1_pre_topc\ (k7_simplex0\ X0\ X1\ X2) = k9_subset_1 \\ (k1_zfmisc_1\ (u1_struct_0\ X1))\ (k9_setfam_1\ X2)\ (u1_pre_topc \\ X1))) \end{aligned}$$