

t8_simplex2

(TMU9ghMXMCsg1T2c5WrRiGtcjg5Co1FriSa)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_metric_1 : \iota \Rightarrow o$ be given. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $v1_simplex2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_simplex0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_simplex0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_simplex2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_matroid0 : \iota \Rightarrow o$ be given. Let $v3_matroid0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $k3_tbsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge (l1_metric_1 \\ & X0))) \Rightarrow (\forall X1.(l1_pre_topc X1) \Rightarrow ((v1_simplex2 X1 X0) \Rightarrow (r1_xreal_0 \\ & k1_xboole_0 (k1_simplex2 X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(\neg(\neg r1_xboole_0 X0 X1) \wedge (\forall X2.\neg(X2 \in \\ & X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2.(X2 \in X0) \wedge (X2 \in X1)) \wedge (r1_xboole_0 \\ & X0 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarSKI X0 X1)\wedge(r1_tarSKI X1 X2))\Rightarrow(r1_tarSKI X0 X2) \quad (5)$$

Assume the following.

$$\forall X0.k9_setfam_1 X0 = k1_zfmisc_1 X0 \quad (6)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (9)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m1_simplex0 X1 X0)\Rightarrow(\forall X2.(m2_simplex0 X2 X0 X1)\Rightarrow((v1_matroid0 X2)\wedge((v3_matroid0 X2)\wedge(m1_simplex0 X2 X0)))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1_simplex0 X1 X0)\Rightarrow(l1_pre_topc X1) \quad (13)$$

Assume the following.

$$\forall X0.(l1_metric_1 X0)\Rightarrow(l1_struct_0 X0) \quad (14)$$

Assume the following.

$$m2_subset_1 k6_numbers k1_numbers k5_numbers \quad (15)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge(l1_metric_1 X0)))\wedge(l1_pre_topc X1))\Rightarrow(m1_subset_1 (k1_simplex2 X0 X1) k1_numbers) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(X2 \in X1)) \quad (18)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0)\Rightarrow(k2_struct_0 X0 = u1_struct_0 X0) \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge(l1_metric_1 X0)))\Rightarrow(\forall X1.(l1_pre_topc X1)\Rightarrow((v1_simplex2 X1 X0)\Rightarrow(\forall X2. \\ & (m1_subset_1 X2 k1_numbers)\Rightarrow(((\neg r1_xboole_0 (u1_pre_topc X1) \\ & (k9_setfam_1 (k2_struct_0 X0)))\Rightarrow((X2 = k1_simplex2 X0 X1)\Leftrightarrow((\forall X3. \\ & (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow((X3 \in u1_pre_topc \\ & X1)\Rightarrow(r1_xxreal_0 (k3_tbsp_1 X0 X3) X2)))\wedge(\forall X3.(v1_xreal_0 \\ & X3)\Rightarrow((\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow \\ & ((X4 \in u1_pre_topc X1)\Rightarrow(r1_xxreal_0 (k3_tbsp_1 X0 X4) X3)))\Rightarrow(r1_xxreal_0 \\ & X2 X3))))))\wedge((r1_xboole_0 (u1_pre_topc X1) (k9_setfam_1 (k2_struct_0 \\ & X0)))\Rightarrow((X2 = k1_simplex2 X0 X1)\Leftrightarrow(X2 = k1_xboole_0)))))) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(m1_simplex0 X1 X0)\Rightarrow(\forall X2.((v1_matroid0 X2)\wedge((v3_matroid0 X2)\wedge(m1_simplex0 X2 X0)))\Rightarrow((m2_simplex0 X2 X0 X1)\Leftrightarrow((r1_tarski (k2_struct_0 X2) (k2_struct_0 X1))\wedge(r1_tarski (u1_pre_topc X2) (u1_pre_topc X1)))))) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski X0 X1)\wedge(r1_tarski X1 X0)) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge(l1_metric_1 X0)))\wedge((v1_simplex2 X2 X0)\wedge(m1_simplex0 X2 X1)))\Rightarrow(\forall X3.(m2_simplex0 X3 X1 X2)\Rightarrow(v1_simplex2 X3 X0)) \quad (23)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (24)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (25)$$

Theorem 1

$$\forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v6_metric_1 X1)\wedge(l1_metric_1 X1)))\Rightarrow(\forall X2.((v1_simplex2 X2 X1)\wedge(m1_simplex0 X2 X0))\Rightarrow(\forall X3.(m2_simplex0 X3 X0 X2)\Rightarrow(r1_xxreal_0 (k1_simplex2 X1 X3) (k1_simplex2 X1 X2))))$$