

t1_simplex2 (TMFwYnZnCUAZagrD- STEzqgh9R3PRMfVG627)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_metric_1 : \iota \Rightarrow o$ be given. Let $v7_metric_1 : \iota \Rightarrow o$ be given. Let $v8_metric_1 : \iota \Rightarrow o$ be given. Let $v9_metric_1 : \iota \Rightarrow o$ be given. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_pcomps_1 : \iota \Rightarrow \iota$ 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 $m1_simplex2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_compts_1 : \iota \Rightarrow o$ be given. Let $m1_setfam_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k9_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (r1_tarski (k3_tarski X0) (k3_tarski X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow ((m1_setfam_1 X1 X0) \Leftrightarrow (k5_setfam_1 X0 X1 = X0)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow(k5_setfam_1 X0 X1 = k3_tarski X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge((v7_metric_1 X0)\wedge((v8_metric_1 X0)\wedge((v9_metric_1 X0)\wedge(l1_metric_1 X0))))))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 X0))))))\Rightarrow(\exists X2.m1_simplex2 X2 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge((v7_metric_1 X0)\wedge((v8_metric_1 X0)\wedge((v9_metric_1 X0)\wedge(l1_metric_1 X0))))))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 X0))))))\Rightarrow(\forall X2.(m1_simplex2 X2 X0 X1)\Rightarrow((v2_xxreal_0 X2)\wedge(m1_subset_1 X2 k1_numbers))) \quad (9)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge((v7_metric_1 X0)\wedge((v8_metric_1 X0)\wedge((v9_metric_1 X0)\wedge(l1_metric_1 X0))))))\Rightarrow((v1_compts_1 (k3_pcomps_1 X0))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 X0))))))\Rightarrow(((v1_tops_2 X1 (k3_pcomps_1 X0))\wedge(m1_setfam_1 X1 (u1_struct_0 (k3_pcomps_1 X0))))\Rightarrow(\forall X2.((v2_xxreal_0 X2)\wedge(m1_subset_1 X2 k1_numbers))\Rightarrow((m1_simplex2 X2 X0 X1)\Leftrightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow(\exists X4.(m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 X0))))\wedge((X4 \in X1)\wedge(r1_tarski (k9_metric_1 X0 X3 X2) X4)))))))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1_setfam_1 X1 X0)\Leftrightarrow(r1_tarski X0 (k3_tarski X1)) \quad (11)$$

Theorem 1

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge((v7_metric_1 X0)\wedge((v8_metric_1 X0)\wedge((v9_metric_1 X0)\wedge(l1_metric_1 X0))))))\Rightarrow(\forall X1.(((v1_tops_2 X1 (k3_pcomps_1 X0))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 X0))))))\Rightarrow(\forall X2.(((v1_tops_2 X2 (k3_pcomps_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 X0))))))\Rightarrow(\forall X3.(m1_simplex2 X3 X0 X1)\Rightarrow(((v1_compts_1 (k3_pcomps_1 X0))\wedge((m1_setfam_1 X1 (u1_struct_0 (k3_pcomps_1 X0)))\wedge(r1_tarski X1 X2))\Rightarrow(m1_simplex2 X3 X0 X2))))))))) \quad (12)$$