

t2_simplex2

(TMZGkt7cncGdr4HrnW2LTFENvK4EyfqQHok)

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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 $r1_setfam_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k9_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow ((m1_setfam_1 X1 X0) \Leftrightarrow (k5_setfam_1 X0 X1 = X0)) \quad (2)$$

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.

$$\forall X0. \forall X1. (r1_setfam_1 X0 X1) \Rightarrow (r1_tarski (k3_tarski X0) (k3_tarski X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow (k5_setfam_1 X0 X1 = k3_tarski X1) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge \\ & ((v7_metric_1 X0) \wedge ((v8_metric_1 X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 \\ & X0)))))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 \\ & (k3_pcomps_1 X0)))))) \Rightarrow (\forall X2. (m1_simplex2 X2 X0 X1) \Rightarrow ((v2_xxreal_0 \\ & X2) \wedge (m1_subset_1 X2 k1_numbers))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (r1_setfam_1 X0 X1) \Leftrightarrow (\forall X2. \neg (X2 \in X0) \wedge \\ & (\forall X3. \neg (X3 \in X1) \wedge (r1_tarski X2 X3))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. (((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v7_metric_1 \\ & X0) \wedge ((v8_metric_1 X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow \\ & ((v1_compts_1 (k3_pcomps_1 X0)) \Rightarrow (\forall X1. (m1_subset_1 X1 \\ & (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 X0)))))) \Rightarrow \\ & (((v1_tops_2 X1 (k3_pcomps_1 X0)) \wedge (m1_setfam_1 X1 (u1_struct_0 \\ & (k3_pcomps_1 X0)))) \Rightarrow (\forall X2. ((v2_xxreal_0 X2) \wedge (m1_subset_1 \\ & X2 k1_numbers)) \Rightarrow ((m1_simplex2 X2 X0 X1) \Leftrightarrow (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow (\exists X4. (m1_subset_1 X4 (k1_zfmisc_1 \\ & (u1_struct_0 (k3_pcomps_1 X0)))) \wedge ((X4 \in X1) \wedge (r1_tarski (k9_metric_1 \\ & X0 X3 X2) X4)))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_setfam_1 X1 X0) \Leftrightarrow (r1_tarski X0 (k3_tarski \\ & X1)) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0. (((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v7_metric_1 \\ & X0) \wedge ((v8_metric_1 X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow \\ & (\forall X1. ((v1_tops_2 X1 (k3_pcomps_1 X0)) \wedge (m1_subset_1 X1 \\ & (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 X0)))))) \Rightarrow \\ & (\forall X2. ((v1_tops_2 X2 (k3_pcomps_1 X0)) \wedge (m1_subset_1 X2 \\ & (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 X0)))))) \Rightarrow \\ & (\forall X3. (m1_simplex2 X3 X0 X1) \Rightarrow (((v1_compts_1 (k3_pcomps_1 \\ & X0)) \wedge ((m1_setfam_1 X1 (u1_struct_0 (k3_pcomps_1 X0))) \wedge (r1_setfam_1 \\ & X1 X2))) \Rightarrow (m1_simplex2 X3 X0 X2)))))) \end{aligned}$$