

t7_simplex2

(TMKxnTcHfTu9X2Tn5nqusEaZcg3FGvQ1VaG)

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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 $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_simplex2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal.0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole.0 : \iota$ be given. Let $k1_simplex2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal.0 : \iota \Rightarrow o$ be given. Let $v3_xxreal.0 : \iota \Rightarrow o$ be given. Let $v2_xxreal.0 : \iota \Rightarrow o$ be given. Let $v1_xboole.0 : \iota \Rightarrow o$ be given. Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc.1 : \iota \Rightarrow \iota$ be given. Let $r1_xboole.0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct.0 : \iota \Rightarrow \iota$ be given. Let $v6_tbsp.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k3_tbsp.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k9_setfam.1 : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xcmplx.0 : \iota \Rightarrow o$ be given. Let $v1_xreal.0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $m2_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $u1_pre_topc : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xreal.0 X0) \Rightarrow (\forall X1.(v1_xreal.0 X1) \Rightarrow (\neg(\neg r1_xxreal.0 X0 X1) \wedge ((\neg v3_xxreal.0 X1) \wedge (\neg v2_xxreal.0 X0)))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboole.0 X0) \Rightarrow (X0 = k1_xboole.0) \quad (2)$$

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.

$$\forall X0.\forall X1.(\neg(\neg r1_xboole.0 X0 X1) \wedge (\forall X2.\neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2.(X2 \in X0) \wedge (X2 \in X1)) \wedge (r1_xboole.0 X0 X1)) \quad (4)$$

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.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (v3_xxreal_0 X1)) \Rightarrow (v3_xxreal_0 X0))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge (l1_metric_1 X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v6_tbsp_1 X1 X0) \Rightarrow (r1_xxreal_0 k6_numbers (k3_tbsp_1 X0 X1)))) \quad (7)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski X0 X0 \quad (9)$$

Assume the following.

$$\forall X0.k9_setfam_1 X0 = k1_zfmisc_1 X0 \quad (10)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (11)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (12)$$

Assume the following.

$$\exists X0.(v1_xboole_0 X0) \wedge ((v1_xcmplx_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (v1_xreal_0 X0))) \quad (13)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (14)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(l1_metric_1 X0) \Rightarrow (l1_struct_0 X0) \quad (17)$$

Assume the following.

$$m2_subset_1 \ k6_numbers \ k1_numbers \ k5_numbers \quad (18)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 \ X0) \wedge ((v6_metric_1 \ X0) \wedge \\ & (l1_metric_1 \ X0))) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (u1_struct_0 \\ & X0)))) \Rightarrow (m1_subset_1 \ (k3_tbsp_1 \ X0 \ X1) \ k1_numbers) \end{aligned} \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 \ X0) \wedge ((v6_metric_1 \ X0) \wedge \\ & (l1_metric_1 \ X0))) \wedge (l1_pre_topc \ X1)) \Rightarrow (m1_subset_1 \ (k1_simplex2 \\ & X0 \ X1) \ k1_numbers) \end{aligned} \quad (21)$$

Assume the following.

$$\forall X0. (l1_struct_0 \ X0) \Rightarrow (k2_struct_0 \ X0 = u1_struct_0 \ X0) \quad (22)$$

Assume the following.

$$\begin{aligned} & \forall X0. (((\neg v2_struct_0 \ X0) \wedge ((v6_metric_1 \ X0) \wedge (l1_metric_1 \\ & X0))) \Rightarrow (\forall X1. (l1_pre_topc \ X1) \Rightarrow ((v1_simplex2 \ X1 \ X0) \Rightarrow (\forall X2. \\ & (m1_subset_1 \ X2 \ k1_numbers) \Rightarrow (((\neg r1_xboole_0 \ (u1_pre_topc \ X1) \\ & (k9_setfam_1 \ (k2_struct_0 \ X0))) \Rightarrow ((X2 = k1_simplex2 \ X0 \ X1) \Leftrightarrow ((\forall X3. \\ & (m1_subset_1 \ X3 \ (k1_zfmisc_1 \ (u1_struct_0 \ X0))) \Rightarrow ((X3 \in u1_pre_topc \\ & X1) \Rightarrow (r1_xxreal_0 \ (k3_tbsp_1 \ X0 \ X3) \ X2)))) \wedge (\forall X3. (v1_xreal_0 \\ & X3) \Rightarrow ((\forall X4. (m1_subset_1 \ X4 \ (k1_zfmisc_1 \ (u1_struct_0 \ X0))) \Rightarrow \\ & ((X4 \in u1_pre_topc \ X1) \Rightarrow (r1_xxreal_0 \ (k3_tbsp_1 \ X0 \ X4) \ X3)))) \Rightarrow (r1_xxreal_0 \\ & X2 \ X3)))))) \wedge ((r1_xboole_0 \ (u1_pre_topc \ X1) \ (k9_setfam_1 \ (k2_struct_0 \\ & X0))) \Rightarrow ((X2 = k1_simplex2 \ X0 \ X1) \Leftrightarrow (X2 = k1_xboole_0)))))) \end{aligned} \quad (23)$$

Assume the following.

$$\begin{aligned} & \forall X0. (((\neg v2_struct_0 \ X0) \wedge ((v6_metric_1 \ X0) \wedge (l1_metric_1 \\ & X0))) \Rightarrow (\forall X1. (l1_pre_topc \ X1) \Rightarrow ((v1_simplex2 \ X1 \ X0) \Leftrightarrow (\exists X2. \\ & (v1_xreal_0 \ X2) \wedge (\forall X3. (m1_subset_1 \ X3 \ (k1_zfmisc_1 \ (u1_struct_0 \\ & X0))) \Rightarrow ((X3 \in u1_pre_topc \ X1) \Rightarrow ((v6_tbsp_1 \ X3 \ X0) \wedge (r1_xxreal_0 \\ & (k3_tbsp_1 \ X0 \ X3) \ X2)))))) \end{aligned} \quad (24)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xxreal_0 \ X0) \wedge (v1_xxreal_0 \ X1)) \Rightarrow ((r1_xxreal_0 \ X0 \ X1) \vee (r1_xxreal_0 \ X1 \ X0)) \quad (25)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0) \wedge (v2_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \quad (26)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\neg v3_xxreal_0 X0) \quad (27)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (28)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (29)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge (l1_metric_1 X0))) \Rightarrow (\forall X1.(l1_pre_topc X1) \Rightarrow ((v1_simplex2 X1 X0) \Rightarrow (r1_xxreal_0 k1_xboole_0 (k1_simplex2 X0 X1))))$$