

t17_simplex1 (TMFWfhD- cmhjhumn9A5Xk32AmGnSu2KphQ7b)

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Let $v2_struct.0 : \iota \Rightarrow o$ be given. Let $v13_algstr.0 : \iota \Rightarrow o$ be given. Let $v2_rlvect.1 : \iota \Rightarrow o$ be given. Let $v3_rlvect.1 : \iota \Rightarrow o$ be given. Let $v4_rlvect.1 : \iota \Rightarrow o$ be given. Let $v5_rlvect.1 : \iota \Rightarrow o$ be given. Let $v6_rlvect.1 : \iota \Rightarrow o$ be given. Let $v7_rlvect.1 : \iota \Rightarrow o$ be given. Let $v8_rlvect.1 : \iota \Rightarrow o$ be given. Let $l1_rlvect.1 : \iota \Rightarrow o$ be given. Let $v3_pencil.1 : \iota \Rightarrow o$ be given. 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 $u1_struct.0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_simplex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_struct.0 : \iota \Rightarrow \iota$ be given. Let $k5_simplex1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k4_simplex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat.1 : \iota \Rightarrow o$ be given. Let $v1_funct.1 : \iota \Rightarrow o$ be given. Let $k11_simplex0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_simplex0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal.0 : \iota \Rightarrow o$ be given. Let $m2_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_setfam.1 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc.1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k2_rlaf fin2 : \iota \Rightarrow \iota$ be given. Let $v1_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_orders.1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k7_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_xboole.0 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_simplex0 X1 X0) \Rightarrow (\forall X2. ((v1_relat.1 \\ & X2) \wedge (v1_funct.1 X2)) \Rightarrow (k11_simplex0 X0 X1 X2 \text{ np_1} = k10_simplex0 \\ & X0 X1 X2)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal.0 \text{ np_1}) \wedge (m2_subset.1 \text{ np_1} \text{ k1_numbers} \text{ k5_numbers})) \wedge \\ & ((m1_subset.1 \text{ np_1} \text{ k5_numbers}) \wedge (m1_subset.1 \text{ np_1} \text{ k1_numbers})) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. k9_setfam.1 X0 = k1_zfmisc.1 X0 \tag{3}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0. (& \neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))))))) \Rightarrow ((v1_funct_1 (k2_rlaffin2 X0)) \wedge ((v1_funct_2 (\\ & k2_rlaffin2 X0) (k1_orders_1 (u1_struct_0 X0)) (u1_struct_0 X0)) \wedge \\ & (m1_subset_1 (k2_rlaffin2 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k1_orders_1 \\ & (u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. (& \neg v2_struct_0 X1) \wedge \\ & ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\ & X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\ & ((v8_rlvect_1 X1) \wedge (l1_rlvect_1 X1)))))))))) \Rightarrow (\forall X2. ((\\ & \neg v3_pencil_1 X2) \wedge ((v1_matroid0 X2) \wedge ((v3_matroid0 X2) \wedge (m1_simplex0 \\ & X2 (u1_struct_0 X1)))))) \Rightarrow ((r1_tarski (k3_simplex1 X1 X2) (k2_struct_0 \\ & X2)) \Rightarrow (k5_simplex1 X0 X1 X2 = k11_simplex0 (u1_struct_0 X1) X2 (k2_rlaffin2 \\ & X1) X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. (& \neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1. (& \neg v3_pencil_1 X1) \wedge ((v1_matroid0 \\ & X1) \wedge ((v3_matroid0 X1) \wedge (m1_simplex0 X1 (u1_struct_0 X0)))))) \Rightarrow \\ & ((r1_tarski (k3_simplex1 X0 X1) (k2_struct_0 X1)) \Rightarrow (k4_simplex1 \\ & X0 X1 = k10_simplex0 (u1_struct_0 X0) X1 (k2_rlaffin2 X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. k1_orders_1 X0 = k7_subset_1 (k1_zfmisc_1 X0) (k9_setfam_1 X0) (k1_tarski k1_xboole_0) \quad (8)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\ & X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))) \Rightarrow (\forall X1.((\neg v3_pencil_1 X1) \wedge (v1_matroid0 \\ & X1) \wedge (v3_matroid0 X1) \wedge (m1_simplex0 X1 (u1_struct_0 X0)))) \Rightarrow \\ & ((r1_tarski (k3_simplex1 X0 X1) (k2_struct_0 X1)) \Rightarrow (k5_simplex1 \\ & np_1 X0 X1 = k4_simplex1 X0 X1)) \end{aligned}$$