

t10_simplex1

(TMLk5i68c55rA99rzpUATCgk39KwRNgZxcG)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $m1_simplex0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_simplex1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_simplex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_convex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_simplex1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_rlvect_1 X0)) \wedge \\ & (m1_simplex0 X1 (u1_struct_0 X0))) \Rightarrow (\forall X2. (m1_simplex1 \\ & X2 X0 X1) \Rightarrow (m1_simplex0 X2 (u1_struct_0 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_rlvect_1 X0)) \wedge \\ & (m1_simplex0 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k3_simplex1 \\ & X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_rlvect_1 X0)) \Rightarrow (\forall X1. \\ & (m1_simplex0 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_simplex0 X2 \\ & (u1_struct_0 X0)) \Rightarrow ((m1_simplex1 X2 X0 X1) \Leftrightarrow ((r1_tarski (k3_simplex1 \\ & X0 X1) (k3_simplex1 X0 X2)) \wedge (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 \\ & (u1_struct_0 X2))) \Rightarrow (\neg (v3_pre_topc X3 X2) \wedge (\forall X4. (m1_subset_1 \\ & X4 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow (\neg (v3_pre_topc X4 X1) \wedge (r1_tarski \\ & (k3_convex1 X0 (k1_simplex1 X0 X2 X3)) (k3_convex1 X0 (k1_simplex1 \\ & X0 X1 X4)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow \\ & (X2 \in X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_rlvect_1 X0)) \Rightarrow (\forall X1. \\
& (m1_simplex0 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((X2 = k3_simplex1 X0 X1) \Leftrightarrow (\forall X3. \\
& (X3 \in X2) \Leftrightarrow (\exists X4.(m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 \\
& X1))) \wedge ((v3_pre_topc X4 X1) \wedge (X3 \in k3_convex1 X0 (k1_simplex1 X0 \\
& X1 X4))))))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_rlvect_1 X0)) \Rightarrow (\forall X1. \\
& (m1_simplex0 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_simplex1 X2 \\
& X0 X1) \Rightarrow (k3_simplex1 X0 X1 = k3_simplex1 X0 X2)))
\end{aligned}$$