

# t5\_simplex1 (TMUCTfSu- fim2qFRXAHWKwdKTp28XpUf68yS)

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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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_convex1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_simplex1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_simplex1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge (l1\_rlvect\_1 X0)) \wedge \\ & (m1\_simplex0 X1 (u1\_struct\_0 X0))) \Rightarrow (m1\_subset\_1 (k3\_simplex1 \\ & X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_rlvect\_1 X0)) \Rightarrow (\forall X1. \\ & (m1\_simplex0 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow ((X2 = k3\_simplex1 X0 X1) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Leftrightarrow (\exists X4. (m1\_subset\_1 X4 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X1)))) \wedge ((v3\_pre\_topc X4 X1) \wedge (X3 \in k3\_convex1 X0 (k1\_simplex1 X0 \\ & X1 X4)))))))))) \end{aligned} \quad (3)$$

## Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_rlvect\_1 X0)) \Rightarrow (\forall X1. \\ & (m1\_simplex0 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (u1\_struct\_0 X1))) \Rightarrow ((v3\_pre\_topc X2 X1) \Rightarrow (r1\_tarski \\ & (k3\_convex1 X0 (k1\_simplex1 X0 X1 X2)) (k3\_simplex1 X0 X1)))))) \end{aligned}$$