

# t9\_simplex2 (TMNzmGDnL- bRJ6bYHyKcSX1i1DQzLKvtKf6U)

October 27, 2020

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  $v1\_matroid0 : \iota \Rightarrow o$  be given. Let  $v1\_simplex2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_simplex0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_simplex2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_simplex0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_simplex0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v6\_metric\_1 X1) \wedge \\ & (l1\_metric\_1 X1))) \Rightarrow (\forall X2. ((v1\_simplex2 X2 X1) \wedge (m1\_simplex0 \\ & X2 X0)) \Rightarrow (\forall X3. (m2\_simplex0 X3 X0 X2) \Rightarrow (r1\_xxreal\_0 (k1\_simplex2 \\ & X1 X3) (k1\_simplex2 X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v1\_matroid0 X1) \wedge (m1\_simplex0 X1 X0)) \wedge (v1\_int\_1 X2)) \Rightarrow (m2\_simplex0 (k9\_simplex0 X0 X1 X2) X0 X1) \tag{2}$$

## Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v6\_metric\_1 X1) \wedge \\ & (l1\_metric\_1 X1))) \Rightarrow (\forall X2. ((v1\_matroid0 X2) \wedge ((v1\_simplex2 \\ & X2 X1) \wedge (m1\_simplex0 X2 X0))) \Rightarrow (\forall X3. (v1\_int\_1 X3) \Rightarrow (r1\_xxreal\_0 \\ & (k1\_simplex2 X1 (k9\_simplex0 X0 X2 X3)) (k1\_simplex2 X1 X2)))) \end{aligned}$$