

## t27\_borsuk\_1

(TMVZJxwwMKUVG6DtMTSqAzzE5KCrH6Ue8LN)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Let  $k11\_borsuk\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_pre\_topc : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \wedge \\ & (m1\_eqrel\_1 X1 (u1\_struct\_0 X0))) \Rightarrow ((v1\_pre\_topc (k11\_borsuk\_1 \\ & X0 X1)) \wedge ((v2\_pre\_topc (k11\_borsuk\_1 X0 X1)) \wedge (l1\_pre\_topc (k11\_borsuk\_1 \\ & X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. \\ & (m1\_eqrel\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. ((v1\_pre\_topc X2) \wedge \\ & ((v2\_pre\_topc X2) \wedge (l1\_pre\_topc X2)))) \Rightarrow ((X2 = k11\_borsuk\_1 X0 X1) \Leftrightarrow \\ & ((u1\_struct\_0 X2 = X1) \wedge (u1\_pre\_topc X2 = ReplSep (toset (\lambda X3 : \\ & \iota. m1\_subset\_1 X3 (k1\_zfmisc\_1 X1))) (\lambda X3 : \iota. k3\_tarski \\ & X3 \in u1\_pre\_topc X0) (\lambda X3 : \iota. X3)))))) \end{aligned} \tag{2}$$

### Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge (m1\_eqrel\_1 X1 (u1\_struct\_0 \\ & X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 X1)) \Rightarrow ((k3\_tarski \\ & X2 \in u1\_pre\_topc X0) \Leftrightarrow (X2 \in u1\_pre\_topc (k11\_borsuk\_1 X0 X1)))))) \end{aligned}$$