

t13\_borsuk\_5 (TMd-  
JsQzYNw67yHtnK1ejHY1A3YU66bd8Z5Y)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_topmetr : \iota$  be given. Let  $k8\_metric\_1 : \iota$  be given. Let  $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v6\_metric\_1 : \iota \Rightarrow o$  be given. Let  $v7\_metric\_1 : \iota \Rightarrow o$  be given. Let  $v8\_metric\_1 : \iota \Rightarrow o$  be given. Let  $v9\_metric\_1 : \iota \Rightarrow o$  be given. Let  $l1\_metric\_1 : \iota \Rightarrow o$  be given. Let  $k3\_pcomps\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_metric\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v6\_metric\_1 X0) \wedge ((v7\_metric\_1 \\ & X0) \wedge ((v8\_metric\_1 X0) \wedge ((v9\_metric\_1 X0) \wedge (l1\_metric\_1 X0)))))) \Rightarrow \\ & (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 (k3\_pcomps\_1 \\ & X0)))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((X2 \in k2\_pre\_topc \\ & (k3\_pcomps\_1 X0) X1) \Leftrightarrow (\forall X3. (v1\_xreal\_0 X3) \Rightarrow (\neg(\neg r1\_xxreal\_0 \\ & X3 k6\_numbers) \wedge (r1\_xboole\_0 (k9\_metric\_1 X0 X2 X3) X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$(v1\_metric\_1 k8\_metric\_1) \wedge ((v6\_metric\_1 k8\_metric\_1) \wedge ((v7\_metric\_1 k8\_metric\_1) \wedge ((v8\_metric\_1 k8\_metric\_1) \wedge (v9\_metric\_1 k8\_metric\_1)))) \quad (2)$$

Assume the following.

$$(\neg v2\_struct\_0 k8\_metric\_1) \wedge (v1\_metric\_1 k8\_metric\_1) \quad (3)$$

Assume the following.

$$(v1\_metric\_1 k8\_metric\_1) \wedge (l1\_metric\_1 k8\_metric\_1) \quad (4)$$

Assume the following.

$$k3\_topmetr = k3\_pcomps\_1 k8\_metric\_1 \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 k3\_topmetr))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 k8\_metric\_1)) \Rightarrow ((X1 \in \\ & k2\_pre\_topc k3\_topmetr X0) \Leftrightarrow (\forall X2.(v1\_xreal\_0 X2) \Rightarrow (\neg(\neg \\ & r1\_xxreal\_0 X2 k6\_numbers) \wedge (r1\_xboole\_0 (k9\_metric\_1 k8\_metric\_1 \\ & X1 X2) X0)))))) \end{aligned}$$