

t5\_fin\_topo  
(TMFFPU7nfwKi72ikJVmdRwHyDRrXqrR47Ts)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_fin\_topo : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_fin\_topo : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (k5\_fin\_topo \\ & X0 X1 = ReplSep (toset (\lambda X2 : \iota. m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0)))) (\lambda X2 : \iota. (\neg r1\_xboole\_0 (k1\_fin\_topo X0 X2) X1) \wedge (\neg r1\_xboole\_0 \\ & (k1\_fin\_topo X0 X2) (k3\_subset\_1 (u1\_struct\_0 X0) X1)))) (\lambda X2 : \\ & \iota. X2))) \end{aligned} \tag{1}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow ((X1 \in k5\_fin\_topo X0 X2) \Leftrightarrow ((\neg \\ & r1\_xboole\_0 (k1\_fin\_topo X0 X1) X2) \wedge (\neg r1\_xboole\_0 (k1\_fin\_topo \\ & X0 X1) (k3\_subset\_1 (u1\_struct\_0 X0) X2)))))) \end{aligned}$$