t9_fintopo4 (TMduEz5rZPzoEDbgTNtUCpFL5owSfJ7GeZE)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v3\_orders\_2 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_fin\_topo : \iota \Rightarrow o$ be given. Let $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_fin\_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (((v1\_fin\_topo\ X0) \wedge (r1\_xboole\_0\ (k9\_fin\_topo\ X0\ X1)\ X2)) \Rightarrow (r1\_xboole\_0\ X1\ (k9\_fin\_topo\ X0\ X2))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_xboole\_0\ X0\ X1) \Rightarrow (r1\_xboole\_0\ X1\ X0) \tag{2}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (((v1\_fin\_topo\ X0) \wedge (r1\_xboole\_0\ X1\ (k9\_fin\_topo\ X0\ X2))) \Rightarrow (r1\_xboole\_0\ (k9\_fin\_topo\ X0\ X1)\ X2))))$$