

# t12\_fintopo2

(TMJP7TbjrsDBRxaLMoAbFa89ra56ZwMyLtY)

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  $k4\_fintopo2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_margrel1 : \iota$  be given. Let  $k1\_fintopo2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_fin\_topo : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_margrel1 : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 ( \\ & u1\_struct\_0 X0))) \Rightarrow ((k1\_fintopo2 X0 X1 X2 X3 = k8\_margrel1) \Leftrightarrow ((X2 \in \\ & k1\_fin\_topo X0 X1) \wedge (X2 \in X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (((X1 \in X2) \Rightarrow (k4\_fintopo2 X0 X1 \\ & X2 = k8\_margrel1)) \wedge ((\neg X1 \in X2) \Rightarrow (k4\_fintopo2 X0 X1 X2 = k7\_margrel1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 ( \\ & u1\_struct\_0 X0))) \Rightarrow (((X2 \in k1\_fin\_topo X0 X1) \wedge (X2 \in X3)) \Rightarrow (k1\_fintopo2 \\ & X0 X1 X2 X3 = k8\_margrel1)) \wedge ((\neg (X2 \in k1\_fin\_topo X0 X1) \wedge (X2 \in X3)) \Rightarrow \\ & (k1\_fintopo2 X0 X1 X2 X3 = k7\_margrel1)))))) \end{aligned} \tag{3}$$

## Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow ((k4\_fintopo2 X0 X1 X2 = k8\_margrel1) \Leftrightarrow \\ & (X1 \in X2)))) \end{aligned}$$