

# t36\_fintopo6 (TMSUSmc- ciV4qjuLJBw6CxfR PxQNHP4ci3mC)

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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  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v1\_fin\_topo : \iota \Rightarrow o$  be given. Let  $v4\_fin\_topo : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_fin\_topo : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (((v1\_fin\_topo \\ & X0) \wedge (v4\_fin\_topo X2 X0) \wedge (r1\_tarski X2 X1) \wedge (r1\_tarski X1 (k9\_fin\_topo \\ & X0 X2)))) \Rightarrow (v4\_fin\_topo X1 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge (l1\_orders\_2 \\ & X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (r1\_tarski X1 (k9\_fin\_topo X0 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 \\ & (k9\_fin\_topo X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X0)) \quad (4)$$

## Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (((v3\_orders\_2 \\ & X0) \wedge (v1\_fin\_topo X0) \wedge (v4\_fin\_topo X1 X0))) \Rightarrow (v4\_fin\_topo (k9\_fin\_topo \\ & X0 X1) X0))) \end{aligned}$$