

t20\_fintopo6  
(TMT5VojXqhmDa6nAYFwrxSrwffPSrdJj7ui)

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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  $v1\_fintopo6 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_fin\_topo : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_fin\_topo : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_fin\_topo : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\neg (v3\_orders\_2 \\ & X0) \wedge ((v1\_fin\_topo X0) \wedge ((v1\_fintopo6 X0) \wedge ((X1 \neq k1\_xboole\_0) \wedge \\ & ((k3\_subset\_1 (u1\_struct\_0 X0) X1 \neq k1\_xboole\_0) \wedge (k6\_fin\_topo \\ & X0 X1 = k1\_xboole\_0))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (k5\_fin\_topo \\ & X0 (k3\_subset\_1 (u1\_struct\_0 X0) X1) = k5\_fin\_topo X0 X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & X0)) \Rightarrow (k9\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k3\_subset\_1 \\ & X0 (k3\_subset\_1 X0 X1) = X1) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (m1\_subset\_1 \\ & (k3\_subset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (k7\_fin\_topo \\ & X0 X1 = k9\_subset\_1 (u1\_struct\_0 X0) (k3\_subset\_1 (u1\_struct\_0 \\ & X0) X1) (k5\_fin\_topo X0 X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (k6\_fin\_topo \\ & X0 X1 = k9\_subset\_1 (u1\_struct\_0 X0) X1 (k5\_fin\_topo X0 X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & X0)) \Rightarrow (k9\_subset\_1 X0 X1 X2 = k9\_subset\_1 X0 X2 X1) \end{aligned} \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\neg (v3\_orders\_2 \\ & X0) \wedge ((v1\_fin\_topo X0) \wedge ((v1\_fintopo6 X0) \wedge ((X1 \neq k1\_xboole\_0) \wedge \\ & ((k3\_subset\_1 (u1\_struct\_0 X0) X1 \neq k1\_xboole\_0) \wedge (k7\_fin\_topo \\ & X0 X1 = k1\_xboole\_0))))))) \end{aligned}$$