

# t4\_fin\_topo (TMWZFqn- jYxSc9LRY6CPZDGhmQccNSi4S58V)

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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  $m1\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_fin\_topo : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k3\_tarski X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (\exists X3. (X2 \in X3) \wedge (X3 \in X0))) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow ((v3\_orders\_2 X0) \Leftrightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (X1 \in k1\_fin\_topo X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_setfam\_1 X1 X0) \Leftrightarrow (r1\_tarski X0 (k3\_tarski X1)) \quad (5)$$

## Theorem 1

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge (l1\_orders\_2 X0))) \Rightarrow (m1\_setfam\_1 (ReplSep (toset (\lambda X1 : \iota. m1\_subset\_1 X1 (u1\_struct\_0 X0))) (\lambda X1 : \iota. True) (\lambda X1 : \iota. k1\_fin\_topo X0 X1)) (u1\_struct\_0 X0))$$