

# t30\_yellow\_9 (TMKAdKNrwB- dio2neJHJ2TNpNBw5h9WUqzkx)

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Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_tops\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_cantor\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_cantor\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Let  $k5\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ & X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ & X0))) \Rightarrow ((r1\_tarski X1 X2) \Rightarrow (r1\_tarski (k1\_cantor\_1 X0 X1) (k1\_cantor\_1 \\ & X0 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X2 X1)) \Rightarrow (r1\_tarski (k2\_xboole\_0 X0 X2) X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 (k2\_xboole\_0 X0 X1) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow ((v1\_tops\_2 X1 X0) \Leftrightarrow (r1\_tarski \\ & X1 (u1\_pre\_topc X0)))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski (k1\_tarski X0) X1) \Leftrightarrow (X0 \in X1) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1\_tarSKI X0 X1)\wedge(r1\_tarSKI X1 X2))\Rightarrow(r1\_tarSKI X0 X2) \quad (7)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc X0)\Rightarrow(m1\_subset\_1 (u1\_pre\_topc X0) (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \quad (8)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))))\Rightarrow((v1\_cantor\_1 X1 X0)\Leftrightarrow(r1\_tarSKI (u1\_pre\_topc X0) (k1\_cantor\_1 (u1\_struct\_0 X0) X1)))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc X0)\Rightarrow((v2\_pre\_topc X0)\Leftrightarrow((u1\_struct\_0 \\ X0 \in u1\_pre\_topc X0)\wedge((\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (k1\_zfmisc\_1 (u1\_struct\_0 X0))))\Rightarrow((r1\_tarSKI X1 (u1\_pre\_topc \\ X0))\Rightarrow(k5\_setfam\_1 (u1\_struct\_0 X0) X1 \in u1\_pre\_topc X0))\wedge(\forall X1. \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))\Rightarrow(\forall X2. \\ (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))\Rightarrow(((X1 \in u1\_pre\_topc \\ X0)\wedge(X2 \in u1\_pre\_topc X0))\Rightarrow(k9\_subset\_1 (u1\_struct\_0 X0) X1 X2 \in \\ u1\_pre\_topc X0)))))))))) \end{aligned} \quad (10)$$

### Theorem 1

$$\begin{aligned} \forall X0.((v2\_pre\_topc X0)\wedge(l1\_pre\_topc X0))\Rightarrow(\forall X1. \\ ((v1\_tops\_2 X1 X0)\wedge((v1\_cantor\_1 X1 X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (k1\_zfmisc\_1 (u1\_struct\_0 X0))))\Rightarrow((v1\_tops\_2 (k2\_xboole\_0 \\ X1 (k1\_tarSKI (u1\_struct\_0 X0)) X0)\wedge((v1\_cantor\_1 (k2\_xboole\_0 \\ X1 (k1\_tarSKI (u1\_struct\_0 X0)) X0)\wedge(m1\_subset\_1 (k2\_xboole\_0 \\ X1 (k1\_tarSKI (u1\_struct\_0 X0)) (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ X0)))))))))) \end{aligned}$$