

t53\_inensp\_1  
(TMWV9gU4Ltfea4e7yLUFpNhx2EakJBFNPXL)

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Let  $v15\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $l2\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u2\_inensp\_1 : \iota \Rightarrow \iota$  be given. Let  $u4\_inensp\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_inensp\_1 : \iota \Rightarrow \iota$  be given. Let  $r2\_inensp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_inensp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r4\_inensp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_inensp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k7\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $v6\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $v7\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $v8\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $v9\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $v10\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $v11\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $v12\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $v13\_inensp\_1 : \iota \Rightarrow o$  be given. Let  $v14\_inensp\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(l2\_inensp\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_inensp\_1 \\ & \quad X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u2\_inensp\_1 X0)) \Rightarrow (\forall X3. \\ & \quad (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_inensp\_1 X0))) \Rightarrow (((r4\_inensp\_1 \\ & \quad X0 X3 X2) \wedge (r1\_inensp\_1 X0 X1 X2)) \Leftrightarrow (r4\_inensp\_1 X0 (k4\_subset\_1 (u1\_inensp\_1 \\ & \quad X0) X3 (k6\_domain\_1 (u1\_inensp\_1 X0) X1)) X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v15\_inensp\_1 X0) \wedge (l2\_inensp\_1 X0)) \Rightarrow (\forall X1.( \\ & \quad m1\_subset\_1 X1 (u1\_inensp\_1 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 ( \\ & \quad u1\_inensp\_1 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u4\_inensp\_1 X0)) \Rightarrow \\ & \quad (\neg(X1 \neq X2) \wedge (\forall X4.(m1\_subset\_1 X4 (u1\_inensp\_1 X0)) \Rightarrow (\neg(r2\_inensp\_1 \\ & \quad X0 X4 X3) \wedge (\neg v3\_inensp\_1 (k8\_domain\_1 (u1\_inensp\_1 X0) X1 X2 X4) X0))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. k1\_enumset1 X0 X1 X2 = k2\_xboole\_0 \\ & \quad (k2\_tarski X0 X1) (k1\_tarski X2) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & ((m1\_subset\_1 X1 X0)\wedge((m1\_subset\_1 X2 X0)\wedge(m1\_subset\_1 X3 X0))))\Rightarrow \\ & (k8\_domain\_1 X0 X1 X2 X3 = k1\_enumset1 X1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((m1\_subset\_1 \\ & X1 X0)\wedge(m1\_subset\_1 X2 X0)))\Rightarrow(k7\_domain\_1 X0 X1 X2 = k2\_tarski X1 \\ & X2) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow \\ & (k6\_domain\_1 X0 X1 = k1\_tarski X1) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & X0))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)))\Rightarrow(k4\_subset\_1 X0 X1 X2 = \\ & k2\_xboole\_0 X1 X2) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l1\_incsp\_1 X0)\Rightarrow(\neg v1\_xboole\_0 (u1\_incsp\_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l2\_incsp\_1 X0)\Rightarrow(l1\_incsp\_1 X0) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & ((m1\_subset\_1 X1 X0)\wedge((m1\_subset\_1 X2 X0)\wedge(m1\_subset\_1 X3 X0))))\Rightarrow \\ & (m1\_subset\_1 (k8\_domain\_1 X0 X1 X2 X3) (k1\_zfmisc\_1 X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((m1\_subset\_1 \\ & X1 X0)\wedge(m1\_subset\_1 X2 X0)))\Rightarrow(m1\_subset\_1 (k7\_domain\_1 X0 X1 X2) \\ & (k1\_zfmisc\_1 X0)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow \\ & (m1\_subset\_1 (k6\_domain\_1 X0 X1) (k1\_zfmisc\_1 X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_incsp\_1 X0) \Rightarrow ((v5\_incsp\_1 X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u2\_incsp\_1 X0)) \Rightarrow (\exists X2.(m1\_subset\_1 X2 (u1\_incsp\_1 X0)) \wedge \\ (\exists X3.(m1\_subset\_1 X3 (u1\_incsp\_1 X0)) \wedge ((X2 \neq X3) \wedge (r4\_incsp\_1 \\ X0 (k7\_domain\_1 (u1\_incsp\_1 X0) X2 X3) X1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_incsp\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_incsp\_1 X0))) \Rightarrow ((v3\_incsp\_1 X1 X0) \Leftrightarrow (\exists X2.(m1\_subset\_1 \\ X2 (u2\_incsp\_1 X0)) \wedge (r4\_incsp\_1 X0 X1 X2)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (k4\_subset\_1 X0 X1 X2 = \\ k4\_subset\_1 X0 X2 X1) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2\_incsp\_1 X0) \Rightarrow ((v15\_incsp\_1 X0) \Rightarrow ((v5\_incsp\_1 X0) \wedge \\ ((v6\_incsp\_1 X0) \wedge ((v7\_incsp\_1 X0) \wedge ((v8\_incsp\_1 X0) \wedge ((v9\_incsp\_1 \\ X0) \wedge ((v10\_incsp\_1 X0) \wedge ((v11\_incsp\_1 X0) \wedge ((v12\_incsp\_1 X0) \wedge \\ ((v13\_incsp\_1 X0) \wedge (v14\_incsp\_1 X0)))))))))) \end{aligned} \quad (16)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v15\_incsp\_1 X0) \wedge (l2\_incsp\_1 X0)) \Rightarrow (\forall X1.( \\ m1\_subset\_1 X1 (u2\_incsp\_1 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 ( \\ u4\_incsp\_1 X0)) \Rightarrow (\exists X3.(m1\_subset\_1 X3 (u1\_incsp\_1 X0)) \wedge \\ ((r2\_incsp\_1 X0 X3 X2) \wedge (\neg r1\_incsp\_1 X0 X3 X1)))))) \end{aligned}$$