t38_connsp_1 (TMXRaW9oU8xgoRsutjHRPmN9wHGgiJYYHAS)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_pre\_topc : \iota \Rightarrow o$ be given. Let $l1\_pre\_topc : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_connsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_connsp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_setfam\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_tarski : \iota \Rightarrow \iota$ be given. Let $k5\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1\_xboole\_0\ X1) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2)) \wedge (v1\_xboole\_0\ X2)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{4}$$

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.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow (\neg(\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow ((X3 \in X2) \Leftrightarrow ((v2\_connsp\_1\ X3\ X0) \wedge (X1 \in X3)))) \wedge (X2 = k1\_xboole\_0)))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1)\Rightarrow((v1\_xboole\_0\ X1)\vee(X0\in X1)) \tag{7}$$

Assume the following.

$$\forall X0.r1\_tarski\ (k1\_setfam\_1\ X0)\ (k3\_tarski\ X0) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)))\Rightarrow(k5\_setfam\_1\ X0\ X1 = k3\_tarski\ X1) \tag{9}$$

Assume the following.

$$\forall X0.\exists X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\wedge(v1\_xboole\_0\ X1) \tag{10}$$

Assume the following.

$$\exists X0.v1\_xboole\_0\ X0 \tag{11}$$

Assume the following.

$$\forall X0.\exists X1.m1\_subset\_1\ X1\ X0 \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((l1\_pre\_topc\ X0)\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)))\Rightarrow(m1\_subset\_1\ (k1\_connsp\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{13}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((X2 = k1\_connsp\_1\ X0\ X1)\Leftrightarrow(\exists X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\wedge((\forall X4.(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((X4\in X3)\Leftrightarrow((v2\_connsp\_1\ X4\ X0)\wedge(X1\in X4))))\wedge(k5\_setfam\_1\ (u1\_struct\_0\ X0)\ X3 = X2)))))) \tag{14}$$

Assume the following.

$$k1\_xboole\_0 = the\ (\lambda X0 : \iota.v1\_xboole\_0\ X0) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.((X0\neq k1\_xboole\_0)\Rightarrow((X1 = k1\_setfam\_1\ X0)\Leftrightarrow(\forall X2.(X2\in X1)\Leftrightarrow(\forall X3.(X3\in X0)\Rightarrow(X2\in X3)))))\wedge((X0 = k1\_xboole\_0)\Rightarrow((X1 = k1\_setfam\_1\ X0)\Leftrightarrow(X1 = k1\_xboole\_0))) \tag{16}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(X1\in k1\_connsp\_1\ X0\ X1))$$