t15_waybel16 (TMXVJ1jWKUpW4vybxjbiyseC8pfdJb6Ap4E)

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Let $k4\_yellow\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_yellow\_1 : \iota \Rightarrow \iota$ be given. Let $k8\_waybel\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_yellow\_1 : \iota \Rightarrow \iota$ be given. Let $k9\_setfam\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r2\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $r1\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v5\_orders\_2 : \iota \Rightarrow o$ be given. Let $k2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v13\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v3\_orders\_2 : \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_orders\_2 : \iota \Rightarrow o$ be given. Let $v4\_orders\_2 : \iota \Rightarrow o$ be given. Let $v1\_relat\_2 : \iota \Rightarrow o$ be given. Let $k1\_yellow\_1 : \iota \Rightarrow \iota$ be given. Let $v4\_relat\_2 : \iota \Rightarrow o$ be given. Let $v8\_relat\_2 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_orders\_2 : \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow ((r2\_lattice3\ X0\ k1\_xboole\_0\ X1) \wedge (r1\_lattice3\ X0\ k1\_xboole\_0\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k2\_yellow\_1\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k2\_yellow\_1\ X0))) \Rightarrow ((r3\_orders\_2\ (k2\_yellow\_1\ X0)\ X1\ X2) \Leftrightarrow (r1\_tarski\ X1\ X2)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1)) \Leftrightarrow (r1\_tarski\ X0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.((v5\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(((X1 = k2\_yellow\_0\ X0\ X2)\wedge(r2\_yellow\_0\ X0\ X2))\Rightarrow((r1\_lattice3\ X0\ X2\ X1)\wedge(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow((r1\_lattice3\ X0\ X2\ X3)\Rightarrow(r1\_orders\_2\ X0\ X3\ X1)))))\wedge(((r1\_lattice3\ X0\ X2\ X1)\wedge(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow((r1\_lattice3\ X0\ X2\ X3)\Rightarrow(r1\_orders\_2\ X0\ X3\ X1))))\Rightarrow((X1 = k2\_yellow\_0\ X0\ X2)\wedge(r2\_yellow\_0\ X0\ X2)))) \tag{5}$$

Assume the following.

$$\forall X0.u1\_struct\_0\ (k3\_yellow\_1\ X0) = k9\_setfam\_1\ X0 \tag{6}$$

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.

$$\forall X0.\forall X1.(X0 \in X1)\Rightarrow(m1\_subset\_1\ X0\ X1) \tag{8}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ (k9\_setfam\_1\ X0))\wedge((v2\_waybel\_0\ (k9\_setfam\_1\ X0)\ (k3\_yellow\_1\ X0))\wedge((v13\_waybel\_0\ (k9\_setfam\_1\ X0)\ (k3\_yellow\_1\ X0))\wedge(m1\_subset\_1\ (k9\_setfam\_1\ X0)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k3\_yellow\_1\ X0))))))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v3\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0)))\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))))\Rightarrow((r3\_orders\_2\ X0\ X1\ X2)\Leftrightarrow(r1\_orders\_2\ X0\ X1\ X2)) \tag{10}$$

Assume the following.

$$\forall X0.k9\_setfam\_1\ X0 = k1\_zfmisc\_1\ X0 \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))\Rightarrow(\forall X2.\forall X3.(g1\_orders\_2\ X0\ X1 = g1\_orders\_2\ X2\ X3)\Rightarrow((X0 = X2)\wedge(X1 = X3))) \tag{12}$$

Assume the following.

$$\forall X0.(\neg v2\_struct\_0\ (k3\_yellow\_1\ X0))\wedge((v1\_orders\_2\ (k3\_yellow\_1\ X0))\wedge((v3\_orders\_2\ (k3\_yellow\_1\ X0))\wedge((v4\_orders\_2\ (k3\_yellow\_1\ X0))\wedge(v5\_orders\_2\ (k3\_yellow\_1\ X0))))) \tag{13}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow ((\neg v2\_struct\_0\ (k2\_yellow\_1\ X0)) \wedge (v1\_orders\_2\ (k2\_yellow\_1\ X0))) \tag{14}$$

Assume the following.

$$\forall X0.(v1\_orders\_2\ (k2\_yellow\_1\ X0)) \wedge ((v3\_orders\_2\ (k2\_yellow\_1\ X0)) \wedge ((v4\_orders\_2\ (k2\_yellow\_1\ X0)) \wedge (v5\_orders\_2\ (k2\_yellow\_1\ X0)))) \tag{15}$$

Assume the following.

$$\forall X0.m1\_subset\_1\ (k9\_setfam\_1\ X0)\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)) \tag{16}$$

Assume the following.

$$\forall X0.(v1\_orders\_2\ (k3\_yellow\_1\ X0)) \wedge (l1\_orders\_2\ (k3\_yellow\_1\ X0)) \tag{17}$$

Assume the following.

$$\forall X0.(v1\_orders\_2\ (k2\_yellow\_1\ X0)) \wedge (l1\_orders\_2\ (k2\_yellow\_1\ X0)) \tag{18}$$

Assume the following.

$$\forall X0.(v1\_relat\_2\ (k1\_yellow\_1\ X0)) \wedge ((v4\_relat\_2\ (k1\_yellow\_1\ X0)) \wedge ((v8\_relat\_2\ (k1\_yellow\_1\ X0)) \wedge ((v1\_partfun1\ (k1\_yellow\_1\ X0)\ X0) \wedge (m1\_subset\_1\ (k1\_yellow\_1\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))))) \tag{19}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0)))) \Rightarrow (k8\_waybel\_0\ X0 = ReplSep\ (toset\ (\lambda X1 : \iota.(\neg v1\_xboole\_0\ X1) \wedge ((v2\_waybel\_0\ X1\ X0) \wedge ((v13\_waybel\_0\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))))\ (\lambda X1 : \iota.True)\ (\lambda X1 : \iota.X1)) \tag{20}$$

Assume the following.

$$\forall X0.k2\_yellow\_1\ X0 = g1\_orders\_2\ X0\ (k1\_yellow\_1\ X0) \tag{21}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0) \Rightarrow (k4\_yellow\_0\ X0 = k2\_yellow\_0\ X0\ k1\_xboole\_0) \tag{22}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0) \Rightarrow ((v1\_orders\_2\ X0) \Rightarrow (X0 = g1\_orders\_2\ (u1\_struct\_0\ X0)\ (u1\_orders\_2\ X0))) \tag{23}$$

Theorem 1

$$\forall X0.k4\_yellow\_0\ (k2\_yellow\_1\ (k8\_waybel\_0\ (k3\_yellow\_1\ X0))) = k9\_setfam\_1\ X0$$