t23_unialg_2 (TMRM7mJ8VRktykMKG6wd9nXd2iV35NhFUQT)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_unialg\_1 : \iota \Rightarrow o$ be given. Let $v3\_unialg\_1 : \iota \Rightarrow o$ be given. Let $v4\_unialg\_1 : \iota \Rightarrow o$ be given. Let $v2\_unialg\_2 : \iota \Rightarrow o$ be given. Let $l1\_unialg\_1 : \iota \Rightarrow o$ be given. Let $v1\_unialg\_1 : \iota \Rightarrow o$ be given. Let $m1\_unialg\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_unialg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_unialg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ 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 $k7\_unialg\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_unialg\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_unialg\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_unialg\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_unialg\_1\ X0) \wedge ((v3\_unialg\_1\ X0) \wedge ((v4\_unialg\_1\ X0) \wedge (l1\_unialg\_1\ X0))))) \Rightarrow (\forall X1.((v1\_unialg\_1\ X1) \wedge (m1\_unialg\_2\ X1\ X0)) \Rightarrow (\forall X2.((\neg v1\_xboole\_0\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow ((X2 = u1\_struct\_0\ X1) \Rightarrow (k7\_unialg\_2\ X0\ X2 = X1)))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ (k3\_xboole\_0\ X0\ X1)\ X0 \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_unialg\_1\ X0) \wedge ((v3\_unialg\_1\ X0) \wedge ((v4\_unialg\_1\ X0) \wedge ((v2\_unialg\_2\ X0) \wedge (l1\_unialg\_1\ X0)))))) \Rightarrow (\forall X1.(m1\_unialg\_2\ X1\ X0) \Rightarrow (\forall X2.(m1\_unialg\_2\ X2\ X0) \Rightarrow (\neg r2\_subset\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X2)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Rightarrow (k2\_xboole\_0\ X0\ X1 = X1) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge(l1\_unialg\_1\ X0)))))\Rightarrow(\forall X1.(m1\_unialg\_2\ X1\ X0)\Rightarrow((\neg v2\_struct\_0\ X1)\wedge((v2\_unialg\_1\ X1)\wedge((v3\_unialg\_1\ X1)\wedge((v4\_unialg\_1\ X1)\wedge(l1\_unialg\_1\ X1))))))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge(l1\_unialg\_1\ X0)))))\wedge((m1\_unialg\_2\ X1\ X0)\wedge(m1\_unialg\_2\ X2\ X0)))\Rightarrow((v1\_unialg\_1\ (k5\_unialg\_2\ X0\ X1\ X2))\wedge(m1\_unialg\_2\ (k5\_unialg\_2\ X0\ X1\ X2)\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge(l1\_unialg\_1\ X0)))))\Rightarrow(\forall X1.(m1\_unialg\_2\ X1\ X0)\Rightarrow(\forall X2.(m1\_unialg\_2\ X2\ X0)\Rightarrow((\neg r2\_subset\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X2))\Rightarrow(\forall X3.((v1\_unialg\_1\ X3)\wedge(m1\_unialg\_2\ X3\ X0))\Rightarrow((X3 = k5\_unialg\_2\ X0\ X1\ X2)\Leftrightarrow((u1\_struct\_0\ X3 = k3\_xboole\_0\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X2))\wedge(\forall X4.((\neg v1\_xboole\_0\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((X4 = u1\_struct\_0\ X3)\Rightarrow((u1\_unialg\_1\ X3 = k3\_unialg\_2\ X0\ X4)\wedge(v1\_unialg\_2\ X4\ X0)))))))))) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge(l1\_unialg\_1\ X0)))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_unialg\_1\ X1)\wedge((v3\_unialg\_1\ X1)\wedge((v4\_unialg\_1\ X1)\wedge(l1\_unialg\_1\ X1)))))\Rightarrow((m1\_unialg\_2\ X1\ X0)\Leftrightarrow((m1\_subset\_1\ (u1\_struct\_0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\wedge(\forall X2.((\neg v1\_xboole\_0\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((X2 = u1\_struct\_0\ X1)\Rightarrow((u1\_unialg\_1\ X1 = k3\_unialg\_2\ X0\ X2)\wedge(v1\_unialg\_2\ X2\ X0))))))) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge(l1\_unialg\_1\ X0)))))\Rightarrow(\forall X1.(m1\_unialg\_2\ X1\ X0)\Rightarrow(\forall X2.(m1\_unialg\_2\ X2\ X0)\Rightarrow(\forall X3.((v1\_unialg\_1\ X3)\wedge(m1\_unialg\_2\ X3\ X0))\Rightarrow((X3 = k8\_unialg\_2\ X0\ X1\ X2)\Leftrightarrow(\forall X4.((\neg v1\_xboole\_0\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((X4 = k2\_xboole\_0\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X2))\Rightarrow(X3 = k7\_unialg\_2\ X0\ X4))))))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X1 = k3\_xboole\_0\ X1\ X0 \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0\ X0\ X1 = k2\_xboole\_0\ X1\ X0 \tag{11}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge((v2\_unialg\_2\ X0)\wedge(l1\_unialg\_1\ X0))))))\Rightarrow(\forall X1.((v1\_unialg\_1\ X1)\wedge(m1\_unialg\_2\ X1\ X0))\Rightarrow(\forall X2.((v1\_unialg\_1\ X2)\wedge(m1\_unialg\_2\ X2\ X0))\Rightarrow(k8\_unialg\_2\ X0\ (k5\_unialg\_2\ X0\ X1\ X2)\ X2 = X2)))$$