t22_lattice6 (TMRyknRePfcPHCKBY-cfy52xuHgAdXxiGHp1)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v10\_lattices : \iota \Rightarrow o$ be given. Let $v4\_lattice3 : \iota \Rightarrow o$ be given. Let $l3\_lattices : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v6\_lattice6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_lattice6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v14\_lattices : \iota \Rightarrow o$ be given. Let $r3\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_lattices : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_lattices : \iota \Rightarrow o$ be given. Let $l2\_lattices : \iota \Rightarrow o$ be given. Let $k3\_lattice6 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_lattice6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v15\_lattices : \iota \Rightarrow o$ be given. Let $v13\_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge ((v4\_lattice3\ X0) \wedge (l3\_lattices\ X0)))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow ((k15\_lattice3\ X0\ (k6\_domain\_1\ (u1\_struct\_0\ X0)\ X1) = X1) \wedge (k16\_lattice3\ X0\ (k6\_domain\_1\ (u1\_struct\_0\ X0)\ X1) = X1))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge ((v14\_lattices\ X0) \wedge (l3\_lattices\ X0)))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (r3\_lattices\ X0\ X1\ (k6\_lattices\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge (m1\_subset\_1\ X1\ X0)) \Rightarrow (k6\_domain\_1\ X0\ X1 = k1\_tarski\ X1) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_struct\_0\ X0)) \Rightarrow (\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l3\_lattices\ X0) \Rightarrow ((l1\_lattices\ X0) \wedge (l2\_lattices\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_lattices\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_lattices\ X0))\Rightarrow(m1\_subset\_1\ (k6\_lattices\ X0)\ (u1\_struct\_0\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge((v4\_lattice3\ X0)\wedge(l3\_lattices\ X0))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v3\_lattice6\ X1\ X0)\Leftrightarrow(k3\_lattice6\ X0\ X1{\neq}X1))) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge((v4\_lattice3\ X0)\wedge(l3\_lattices\ X0))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(k3\_lattice6\ X0\ X1 = k16\_lattice3\ X0\ (ReplSep\ (toset\ (\lambda X2:\iota.m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)))\ (\lambda X2:\iota.(r3\_lattices\ X0\ X1\ X2)\wedge(X2{\neq}X1))\ (\lambda X2:\iota.X2)))) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow((r1\_lattice6\ X0\ X1\ X2)\Leftrightarrow((X1{\neq}X2)\wedge((r3\_lattices\ X0\ X2\ X1)\wedge(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\neg(r3\_lattices\ X0\ X2\ X3)\wedge((r3\_lattices\ X0\ X3\ X1)\wedge((X3{\neq}X1)\wedge(X3{\neq}X2)))))))))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski\ X0)\Leftrightarrow(\forall X2.(X2\in X1)\Leftrightarrow(X2 = X0)) \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v6\_lattice6\ X1\ X0)\Leftrightarrow(r1\_lattice6\ X0\ (k6\_lattices\ X0)\ X1))) \tag{12}$$

Assume the following.

$$\forall X0.(l3\_lattices\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge(v15\_lattices\ X0))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge((v13\_lattices\ X0)\wedge(v14\_lattices\ X0)))) \tag{13}$$

Assume the following.

$$\forall X0.(l3\_lattices\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(v4\_lattice3\ X0)))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(v15\_lattices\ X0)))) \tag{14}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge((v4\_lattice3\ X0)\wedge(l3\_lattices\ X0))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v6\_lattice6\ X1\ X0)\Rightarrow(v3\_lattice6\ X1\ X0)))$$