# t2_lattice3 (TM-Myp2wwG6Mm54JdUGCCzsHWJbX3zqyCgHo)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_lattice3 : \iota \Rightarrow \iota$ be given. Let $r1\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v3\_lattices : \iota \Rightarrow o$ be given. Let $l3\_lattices : \iota \Rightarrow o$ be given. Let $l1\_lattices : \iota \Rightarrow o$ be given. Let $l2\_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ (k2\_xboole\_0\ X0\ X1) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Rightarrow (k2\_xboole\_0\ X0\ X1 = X1) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((m1\_subset\_1\ X1\ (u1\_struct\_0\ (k1\_lattice3\ X0))) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ (k1\_lattice3\ X0)))) \Rightarrow (((X1 = X3) \wedge (X2 = X4)) \Rightarrow (k1\_lattices\ (k1\_lattice3\ X0)\ X1\ X2 = k2\_xboole\_0\ X3\ X4)) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v2\_struct\_0\ (k1\_lattice3\ X0)) \wedge (v3\_lattices\ (k1\_lattice3\ X0)) \tag{4}$$

Assume the following.

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

Assume the following.

$$\forall X0.(v3\_lattices\ (k1\_lattice3\ X0)) \wedge (l3\_lattices\ (k1\_lattice3\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_lattices\ X0))\Rightarrow(\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow((r1\_lattices\ X0\ X1\ X2)\Leftrightarrow(k1\_lattices\ X0\ X1\ X2 = X2)))) \tag{7}$$

**Theorem 1**

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k1\_lattice3\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k1\_lattice3\ X0)))\Rightarrow((r1\_lattices\ (k1\_lattice3\ X0)\ X1\ X2)\Leftrightarrow(r1\_tarski\ X1\ X2)))$$