t2_robbins4 (TMTTtUsuLHskwDKw-tUW2MpHMGE9hzXQofxm)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v10\_lattices : \iota \Rightarrow o$ be given. Let $v10\_robbins1 : \iota \Rightarrow o$ be given. Let $v8\_robbins3 : \iota \Rightarrow o$ be given. Let $v9\_robbins3 : \iota \Rightarrow o$ be given. Let $l4\_robbins1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_lattices : \iota \Rightarrow \iota$ be given. Let $k4\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_lattices : \iota \Rightarrow \iota$ be given. Let $v6\_lattices : \iota \Rightarrow o$ be given. Let $l1\_lattices : \iota \Rightarrow o$ be given. Let $k2\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4\_lattices : \iota \Rightarrow o$ be given. Let $l2\_lattices : \iota \Rightarrow o$ be given. Let $k1\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v13\_lattices : \iota \Rightarrow o$ be given. Let $l3\_lattices : \iota \Rightarrow o$ be given. Let $l2\_robbins1 : \iota \Rightarrow o$ be given. Let $l1\_robbins1 : \iota \Rightarrow o$ be given. Let $v14\_lattices : \iota \Rightarrow o$ be given. Let $v5\_lattices : \iota \Rightarrow o$ be given. Let $v7\_lattices : \iota \Rightarrow o$ be given. Let $v8\_lattices : \iota \Rightarrow o$ be given. Let $v9\_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0) \wedge ((v6\_lattices\ X0) \wedge (l1\_lattices\ X0))) \wedge ((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)))) \Rightarrow (k4\_lattices\ X0\ X1\ X2 = k2\_lattices\ X0\ X1\ X2) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0) \wedge ((v4\_lattices\ X0) \wedge (l2\_lattices\ X0))) \wedge ((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)))) \Rightarrow (k3\_lattices\ X0\ X1\ X2 = k1\_lattices\ X0\ X1\ X2) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge ((v13\_lattices\ X0) \wedge (l3\_lattices\ X0)))) \wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))) \Rightarrow (k3\_lattices\ X0\ (k5\_lattices\ X0)\ X1 = X1) \tag{3}$$

Assume the following.

$$\forall X0.(l4\_robbins1\ X0) \Rightarrow ((l2\_robbins1\ X0) \wedge (l3\_lattices\ X0)) \tag{4}$$

Assume the following.

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

Assume the following.

$$\forall X0.(l2\_robbins1\ X0) \Rightarrow ((l2\_lattices\ X0) \wedge (l1\_robbins1\ X0)) \tag{6}$$

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.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_lattices\ X0)) \Rightarrow (m1\_subset\_1\ (k5\_lattices\ X0)\ (u1\_struct\_0\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge (l1\_robbins1\ X0)) \wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))) \Rightarrow (m1\_subset\_1\ (k3\_robbins1\ X0\ X1)\ (u1\_struct\_0\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l2\_robbins1\ X0)) \Rightarrow ((v9\_robbins3\ X0) \Leftrightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (k1\_lattices\ X0\ X1\ (k3\_robbins1\ X0\ X1) = k1\_lattices\ X0\ X2\ (k3\_robbins1\ X0\ X2))))) \tag{10}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_robbins1\ X0)) \Rightarrow ((v8\_robbins3\ X0) \Leftrightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (k3\_robbins1\ X0\ (k3\_robbins1\ X0\ X1) = X1))) \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l4\_robbins1\ X0)) \Rightarrow ((v10\_robbins1\ X0) \Leftrightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (k2\_lattices\ X0\ X1\ X2 = k3\_robbins1\ X0\ (k1\_lattices\ X0\ (k3\_robbins1\ X0\ X1)\ (k3\_robbins1\ X0\ X2)))))) \tag{12}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l2\_lattices\ X0)) \Rightarrow ((v14\_lattices\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow ((X1 = k6\_lattices\ X0) \Leftrightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((k1\_lattices\ X0\ X1\ X2 = X1) \wedge (k1\_lattices\ X0\ X2\ X1 = X1)))))) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v6\_lattices\ X0)\wedge(l1\_lattices\ X0)))\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))))\Rightarrow(k4\_lattices\ X0\ X1\ X2 = k4\_lattices\ X0\ X2\ X1) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v4\_lattices\ X0)\wedge(l2\_lattices\ X0)))\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))))\Rightarrow(k3\_lattices\ X0\ X1\ X2 = k3\_lattices\ X0\ X2\ X1) \tag{15}$$

Assume the following.

$$\forall X0.(l4\_robbins1\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge((v10\_robbins1\ X0)\wedge((v8\_robbins3\ X0)\wedge(v9\_robbins3\ X0)))))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge((v14\_lattices\ X0)\wedge((v10\_robbins1\ X0)\wedge((v8\_robbins3\ X0)\wedge(v9\_robbins3\ X0))))))) \tag{16}$$

Assume the following.

$$\forall X0.(l4\_robbins1\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge((v10\_robbins1\ X0)\wedge((v8\_robbins3\ X0)\wedge(v9\_robbins3\ X0)))))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge((v13\_lattices\ X0)\wedge((v10\_robbins1\ X0)\wedge((v8\_robbins3\ X0)\wedge(v9\_robbins3\ X0))))))) \tag{17}$$

Assume the following.

$$\forall X0.(l3\_lattices\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge(v10\_lattices\ X0))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge((v4\_lattices\ X0)\wedge((v5\_lattices\ X0)\wedge((v6\_lattices\ X0)\wedge((v7\_lattices\ X0)\wedge((v8\_lattices\ X0)\wedge(v9\_lattices\ X0))))))))) \tag{18}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge((v10\_robbins1\ X0)\wedge((v8\_robbins3\ X0)\wedge((v9\_robbins3\ X0)\wedge(l4\_robbins1\ X0))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((k3\_lattices\ X0\ X1\ (k3\_robbins1\ X0\ X1) = k6\_lattices\ X0)\wedge(k4\_lattices\ X0\ X1\ (k3\_robbins1\ X0\ X1) = k5\_lattices\ X0)))$$