t13_osalg_4 (TM-SJQ7WCMNjEhhY1ffV4u2SZgzhSvBCCQ11)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $v4\_osalg\_1 : \iota \Rightarrow o$ be given. Let $v5\_osalg\_1 : \iota \Rightarrow o$ be given. Let $v2\_osalg\_4 : \iota \Rightarrow o$ be given. Let $l3\_osalg\_1 : \iota \Rightarrow o$ be given. Let $v4\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v12\_osalg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_msualg\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_osalg\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_osalg\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_orders\_2 : \iota \Rightarrow o$ be given. Let $v4\_orders\_2 : \iota \Rightarrow o$ be given. Let $v5\_orders\_2 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $k3\_osalg\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_osalg\_1 : \iota \Rightarrow o$ be given. Let $l2\_osalg\_1 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $k6\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_osalg\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_osalg\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((r3\_orders\_2\ X0\ X1\ X2) \Rightarrow (k3\_osalg\_4\ X0\ X1 = k3\_osalg\_4\ X0\ X2)))) \tag{1}$$

Assume the following.

$$\forall X0.(l3\_osalg\_1\ X0) \Rightarrow ((l1\_osalg\_1\ X0) \wedge (l2\_osalg\_1\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.(l2\_osalg\_1\ X0) \Rightarrow ((l1\_msualg\_1\ X0) \wedge (l1\_orders\_2\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge((v4\_osalg\_1\ X0)\wedge((v5\_osalg\_1\ X0)\wedge((v2\_osalg\_4\ X0)\wedge(l3\_osalg\_1\ X0))))))\Rightarrow(\forall X1.((v4\_msualg\_1\ X1\ X0)\wedge((v12\_osalg\_1\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0)))\Rightarrow(\forall X2.((v2\_msualg\_4\ X2\ X0\ X1)\wedge(m1\_osalg\_4\ X2\ X0\ X1))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (k1\_funct\_1\ (u3\_msualg\_1\ X0\ X1)\ X3))\Rightarrow(k8\_osalg\_4\ X0\ X1\ X2\ X3\ X4 = k6\_eqrel\_1\ (k4\_osalg\_4\ X0\ (u3\_msualg\_1\ X0\ X1)\ (k3\_osalg\_4\ X0\ X3))\ (k4\_osalg\_4\ X0\ (u3\_msualg\_1\ X0\ X1)\ (k3\_osalg\_4\ X0\ X3))\ (k5\_osalg\_4\ X0\ X1\ X2\ (k3\_osalg\_4\ X0\ X3))\ X4)))))) \tag{4}$$

Assume the following.

$$\forall X0.(l3\_osalg\_1\ X0)\Rightarrow((v4\_osalg\_1\ X0)\Rightarrow((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge(v5\_orders\_2\ X0)))) \tag{5}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge((v4\_osalg\_1\ X0)\wedge((v5\_osalg\_1\ X0)\wedge((v2\_osalg\_4\ X0)\wedge(l3\_osalg\_1\ X0))))))\Rightarrow(\forall X1.((v4\_msualg\_1\ X1\ X0)\wedge((v12\_osalg\_1\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0)))\Rightarrow(\forall X2.((v2\_msualg\_4\ X2\ X0\ X1)\wedge(m1\_osalg\_4\ X2\ X0\ X1))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (k1\_funct\_1\ (u3\_msualg\_1\ X0\ X1)\ X3))\Rightarrow((r3\_orders\_2\ X0\ X3\ X4)\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ (k1\_funct\_1\ (u3\_msualg\_1\ X0\ X1)\ X4))\Rightarrow((X6 = X5)\Rightarrow(k8\_osalg\_4\ X0\ X1\ X2\ X3\ X5 = k8\_osalg\_4\ X0\ X1\ X2\ X4\ X6)))))))))$$