t28_instalg1 (TMU-tyZ7JcC9bWapKZgAcVie72gmTv846VmG)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_instalg1 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $m1\_instalg1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_instalg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_relat\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $r3\_pua2mss1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_instalg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k6\_partfun1 : \iota \Rightarrow \iota$ be given. Let $v3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X1) \Rightarrow ((r1\_tarski\ (k10\_xtuple\_0\ X1)\ X0) \Rightarrow (k3\_relat\_1\ X1\ (k4\_relat\_1\ X0) = X1)) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1)) \Rightarrow (\forall X2.((\neg v2\_struct\_0\ X2) \wedge (l1\_msualg\_1\ X2)) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge (v1\_funct\_1\ X3)) \Rightarrow (\forall X4.((v1\_relat\_1\ X4) \wedge (v1\_funct\_1\ X4)) \Rightarrow ((r3\_pua2mss1\ X0\ X1\ X3\ X4) \Rightarrow (\forall X5.((v1\_relat\_1\ X5) \wedge (v1\_funct\_1\ X5)) \Rightarrow (\forall X6.((v1\_relat\_1\ X6) \wedge (v1\_funct\_1\ X6)) \Rightarrow ((r3\_pua2mss1\ X1\ X2\ X5\ X6) \Rightarrow (\forall X7.(l3\_msualg\_1\ X7\ X2) \Rightarrow (k1\_instalg1\ X0\ X2\ X7\ (k3\_relat\_1\ X3\ X5)\ (k3\_relat\_1\ X4\ X6) = k1\_instalg1\ X0\ X1\ (k1\_instalg1\ X1\ X2\ X7\ X5\ X6)\ X3\ X4)))))))))) \tag{2}$$

Assume the following.

$$\forall X0.((v1\_instalg1\ X0) \wedge (l1\_msualg\_1\ X0)) \Rightarrow (\forall X1.(m1\_instalg1\ X1\ X0) \Rightarrow ((r1\_tarski\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0)) \wedge (r1\_tarski\ (u4\_struct\_0\ X1)\ (u4\_struct\_0\ X0)))) \tag{3}$$

Assume the following.

$$\forall X0.k6\_partfun1\ X0 = k4\_relat\_1\ X0 \tag{4}$$

Assume the following.

$$\forall X0.k10\_xtuple\_0\ (k4\_relat\_1\ X0) = X0 \tag{5}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ (k4\_relat\_1\ X0))\wedge(v1\_funct\_1\ (k4\_relat\_1\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.((v1\_instalg1\ X0)\wedge(l1\_msualg\_1\ X0))\Rightarrow(\forall X1.\ (m1\_instalg1\ X1\ X0)\Rightarrow(l1\_msualg\_1\ X1)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0))\wedge(((\neg v2\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1))\wedge(l3\_msualg\_1\ X2\ X0)))\Rightarrow((v3\_msualg\_1\ (k2\_instalg1\ X0\ X1\ X2)\ X1)\wedge(l3\_msualg\_1\ (k2\_instalg1\ X0\ X1\ X2)\ X1)) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0))\Rightarrow(\forall X1.\ ((\neg v2\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1))\Rightarrow(\forall X2.(l3\_msualg\_1\ X2\ X0)\Rightarrow(k2\_instalg1\ X0\ X1\ X2 = k1\_instalg1\ X1\ X0\ X2\ (k6\_partfun1\ (u1\_struct\_0\ X1))\ (k6\_partfun1\ (u4\_struct\_0\ X1))))) \tag{9}$$

Assume the following.

$$\forall X0.((v1\_instalg1\ X0)\wedge(l1\_msualg\_1\ X0))\Rightarrow(\forall X1.\ (l1\_msualg\_1\ X1)\Rightarrow((m1\_instalg1\ X1\ X0)\Leftrightarrow(r3\_pua2mss1\ X1\ X0\ (k6\_partfun1\ (u1\_struct\_0\ X1))\ (k6\_partfun1\ (u4\_struct\_0\ X1))))) \tag{10}$$

Assume the following.

$$\forall X0.((v1\_instalg1\ X0)\wedge(l1\_msualg\_1\ X0))\Rightarrow(\forall X1.\ (m1\_instalg1\ X1\ X0)\Rightarrow(v1\_instalg1\ X1)) \tag{11}$$

Assume the following.

$$\forall X0.(l1\_msualg\_1\ X0)\Rightarrow((\neg v2\_struct\_0\ X0)\Rightarrow(v1\_instalg1\ X0)) \tag{12}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v1\_instalg1\ X0)\wedge(l1\_msualg\_1\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(m1\_instalg1\ X1\ X0))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge(m1\_instalg1\ X2\ X1))\Rightarrow(\forall X3.\ (l3\_msualg\_1\ X3\ X0)\Rightarrow(k2\_instalg1\ X0\ X2\ X3 = k2\_instalg1\ X1\ X2\ (k2\_instalg1\ X0\ X1\ X3)))))$$