l29_grnilp_1 (TMKPuLtujVh8g5Y8rSoivriX1sWvYKTsnrH)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_group\_1 : \iota \Rightarrow o$ be given. Let $v3\_group\_1 : \iota \Rightarrow o$ be given. Let $l3\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v15\_algstr\_0 : \iota \Rightarrow o$ be given. Let $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_group\_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_group\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g3\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u2\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_group\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_group\_1\ X0) \wedge ((v3\_group\_1\ X0) \wedge (l3\_algstr\_0\ X0)))) \Rightarrow (\forall X1.(m1\_group\_2\ X1\ X0) \Rightarrow (\forall X2.(m1\_group\_2\ X2\ X0) \Rightarrow ((m1\_group\_2\ X2\ X1) \Leftrightarrow (g3\_algstr\_0\ (u1\_struct\_0\ (k10\_group\_2\ X0\ X2\ X1))\ (u2\_algstr\_0\ (k10\_group\_2\ X0\ X2\ X1)) = g3\_algstr\_0\ (u1\_struct\_0\ X2)\ (u2\_algstr\_0\ X2))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_group\_1\ X0) \wedge ((v3\_group\_1\ X0) \wedge (l3\_algstr\_0\ X0)))) \Rightarrow (\forall X1.(m1\_group\_2\ X1\ X0) \Rightarrow (\forall X2.(m1\_group\_2\ X2\ X0) \Rightarrow ((m1\_group\_2\ (k10\_group\_2\ X0\ X1\ X2)\ X1) \wedge (m1\_group\_2\ (k10\_group\_2\ X0\ X1\ X2)\ X2)))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_group\_1\ X0) \wedge ((v3\_group\_1\ X0) \wedge (l3\_algstr\_0\ X0)))) \Rightarrow (\forall X1.(m1\_group\_2\ X1\ X0) \Rightarrow (\forall X2.(m1\_group\_2\ X2\ X0) \Rightarrow (\forall X3.(m1\_group\_2\ X3\ X0) \Rightarrow (r1\_group\_2\ X0\ (k10\_group\_2\ X0\ (k10\_group\_2\ X0\ X1\ X2)\ X3)\ (k10\_group\_2\ X0\ X1\ (k10\_group\_2\ X0\ X2\ X3)))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\Rightarrow(\forall X1.(m1\_group\_2\ X1\ X0)\Rightarrow(\forall X2.(m1\_group\_6\ X2\ X0\ X1)\Rightarrow(\forall X3.(m1\_group\_6\ X3\ X0\ X1)\Rightarrow(k10\_group\_2\ X0\ X2\ X3 = k10\_group\_2\ X1\ X2\ X3)))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\wedge(((v15\_algstr\_0\ X1)\wedge(m1\_group\_2\ X1\ X0))\wedge((v15\_algstr\_0\ X2)\wedge(m1\_group\_2\ X2\ X0))))\Rightarrow((r1\_group\_2\ X0\ X1\ X2)\Leftrightarrow(X1 = X2)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\wedge(m1\_group\_2\ X1\ X0))\Rightarrow(\forall X2.(m1\_group\_6\ X2\ X0\ X1)\Leftrightarrow(m1\_group\_2\ X2\ X1)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\wedge(((v1\_group\_3\ X1\ X0)\wedge(m1\_group\_2\ X1\ X0))\wedge(m1\_group\_2\ X2\ X0)))\Rightarrow(k3\_group\_6\ X0\ X1\ X2 = k9\_group\_2\ X0\ X1\ X2) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\wedge((m1\_group\_2\ X1\ X0)\wedge(m1\_group\_2\ X2\ X0)))\Rightarrow(k10\_group\_2\ X0\ X1\ X2 = k9\_group\_2\ X0\ X1\ X2) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0)))\Rightarrow(\forall X1.(m1\_group\_2\ X1\ X0)\Rightarrow((\neg v2\_struct\_0\ X1)\wedge((v2\_group\_1\ X1)\wedge(l3\_algstr\_0\ X1)))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\wedge(((v1\_group\_3\ X1\ X0)\wedge(m1\_group\_2\ X1\ X0))\wedge(m1\_group\_2\ X2\ X0)))\Rightarrow((v15\_algstr\_0\ (k3\_group\_6\ X0\ X1\ X2))\wedge((v1\_group\_3\ (k3\_group\_6\ X0\ X1\ X2)\ X2)\wedge(m1\_group\_6\ (k3\_group\_6\ X0\ X1\ X2)\ X0\ X2))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\wedge((m1\_group\_2\ X1\ X0)\wedge(m1\_group\_2\ X2\ X0)))\Rightarrow((v15\_algstr\_0\ (k10\_group\_2\ X0\ X1\ X2))\wedge(m1\_group\_2\ (k10\_group\_2\ X0\ X1\ X2)\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\wedge((m1\_group\_2\ X1\ X0)\wedge(m1\_group\_2\ X2\ X0)))\Rightarrow(k10\_group\_2\ X0\ X1\ X2 = k10\_group\_2\ X0\ X2\ X1) \tag{12}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\Rightarrow(\forall X1.(m1\_group\_2\ X1\ X0)\Rightarrow(v3\_group\_1\ X1)) \tag{13}$$

Assume the following.

$$\forall X0.(l3\_algstr\_0\ X0)\Rightarrow((v15\_algstr\_0\ X0)\Rightarrow(X0 = g3\_algstr\_0\ (u1\_struct\_0\ X0)\ (u2\_algstr\_0\ X0))) \tag{14}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0))))\Rightarrow(\forall X1.((v15\_algstr\_0\ X1)\wedge(m1\_group\_2\ X1\ X0))\Rightarrow(\forall X2.(m1\_group\_2\ X2\ X0)\Rightarrow(\forall X3.(m1\_group\_2\ X3\ X0)\Rightarrow(((v1\_group\_3\ X1\ X3)\wedge(m1\_group\_6\ X1\ X0\ X3))\Rightarrow((v1\_group\_3\ (k10\_group\_2\ X0\ X1\ X2)\ (k10\_group\_2\ X0\ X3\ X2))\wedge(m1\_group\_6\ (k10\_group\_2\ X0\ X1\ X2)\ X0\ (k10\_group\_2\ X0\ X3\ X2)))))))$$