t28_autalg_1 (TMV89g9niiCTKLJStTprR2X2bp92LAmAsEk)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $v4\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k7\_autalg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_autalg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_autalg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_msualg\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $g3\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v15\_algstr\_0 : \iota \Rightarrow o$ 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 $u2\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $k6\_autalg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\ X0))))) \Rightarrow (\forall X2.\forall X3.(g3\_algstr\_0\ X0\ X1 = g3\_algstr\_0\ X2\ X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0))) \wedge ((v4\_msualg\_1\ X1\ X0) \wedge (l3\_msualg\_1\ X1\ X0))) \Rightarrow ((\neg v2\_struct\_0\ (k7\_autalg\_1\ X0\ X1)) \wedge ((v15\_algstr\_0\ (k7\_autalg\_1\ X0\ X1)) \wedge ((v2\_group\_1\ (k7\_autalg\_1\ X0\ X1)) \wedge (v3\_group\_1\ (k7\_autalg\_1\ X0\ X1))))) \tag{2}$$

Assume the following.

$$\forall X0.(l3\_algstr\_0\ X0) \Rightarrow ((v1\_funct\_1\ (u2\_algstr\_0\ X0)) \wedge ((v1\_funct\_2\ (u2\_algstr\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ (u2\_algstr\_0\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge (l1\_msualg\_1\ X0)))\wedge((v4\_msualg\_1\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0)))\Rightarrow ((\neg v2\_struct\_0\ (k7\_autalg\_1\ X0\ X1))\wedge((v2\_group\_1\ (k7\_autalg\_1\ X0\ X1))\wedge((v3\_group\_1\ (k7\_autalg\_1\ X0\ X1))\wedge(l3\_algstr\_0\ (k7\_autalg\_1\ X0\ X1)))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge (l1\_msualg\_1\ X0)))\wedge((v4\_msualg\_1\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0)))\Rightarrow ((v1\_funct\_1\ (k6\_autalg\_1\ X0\ X1))\wedge((v1\_funct\_2\ (k6\_autalg\_1\ X0\ X1)\ (k2\_zfmisc\_1\ (k5\_autalg\_1\ X0\ X1)\ (k5\_autalg\_1\ X0\ X1))\ (k5\_autalg\_1\ X0\ X1))\wedge(m1\_subset\_1\ (k6\_autalg\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (k5\_autalg\_1\ X0\ X1)\ (k5\_autalg\_1\ X0\ X1))\ (k5\_autalg\_1\ X0\ X1)))))) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\Rightarrow(\forall X1.((v4\_msualg\_1\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0))\Rightarrow (k7\_autalg\_1\ X0\ X1 = g3\_algstr\_0\ (k5\_autalg\_1\ X0\ X1)\ (k6\_autalg\_1\ X0\ X1))) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\Rightarrow(\forall X1.((v4\_msualg\_1\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0))\Rightarrow (\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ (k5\_autalg\_1\ X0\ X1)\ (k5\_autalg\_1\ X0\ X1))\ (k5\_autalg\_1\ X0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (k5\_autalg\_1\ X0\ X1)\ (k5\_autalg\_1\ X0\ X1))\ (k5\_autalg\_1\ X0\ X1)))))))\Rightarrow((X2 = k6\_autalg\_1\ X0\ X1)\Leftrightarrow(\forall X3.(m1\_autalg\_1\ X3\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)\ (k5\_autalg\_1\ X0\ X1))\Rightarrow(\forall X4.(m1\_autalg\_1\ X4\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)\ (k5\_autalg\_1\ X0\ X1))\Rightarrow(k5\_binop\_1\ (k5\_autalg\_1\ X0\ X1)\ X2\ X3\ X4 = k3\_msualg\_3\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)\ (u3\_msualg\_1\ X0\ X1)\ (u3\_msualg\_1\ X0\ X1)\ X3\ X4)))))) \tag{7}$$

Assume the following.

$$\forall X0.(l3\_algstr\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(k6\_algstr\_0\ X0\ X1\ X2 = k5\_binop\_1\ (u1\_struct\_0\ X0)\ (u2\_algstr\_0\ X0)\ X1\ X2))) \tag{8}$$

Assume the following.

$$\forall X0.(l3\_algstr\_0\ X0)\Rightarrow((v15\_algstr\_0\ X0)\Rightarrow(X0 = g3\_algstr\_0\ (u1\_struct\_0\ X0)\ (u2\_algstr\_0\ X0))) \tag{9}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\Rightarrow(\forall X1.((v4\_msualg\_1\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k7\_autalg\_1\ X0\ X1)))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ (k7\_autalg\_1\ X0\ X1)))\Rightarrow(\forall X4.(m1\_autalg\_1\ X4\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)\ (k5\_autalg\_1\ X0\ X1))\Rightarrow(\forall X5.(m1\_autalg\_1\ X5\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)\ (k5\_autalg\_1\ X0\ X1))\Rightarrow(((X2 = X4)\wedge(X3 = X5))\Rightarrow(k6\_algstr\_0\ (k7\_autalg\_1\ X0\ X1)\ X2\ X3 = k3\_msualg\_3\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)\ (u3\_msualg\_1\ X0\ X1)\ (u3\_msualg\_1\ X0\ X1)\ X4\ X5)))))))$$