l69_anproj_2 (TMEhTsf1oQ5z4P51ZYthL7pFCvRTkAHb528)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v7\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v2\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v5\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v6\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v7\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v8\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $l1\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k5\_anproj\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_collsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_anproj\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_anproj\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v9\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_anproj\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge (l1\_rlvect\_1\ X0))))))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X0)) \Rightarrow (((r1\_anproj\_1\ X0\ X1\ X2) \wedge ((r1\_anproj\_1\ X0\ X3\ X4) \wedge ((r1\_anproj\_1\ X0\ X5\ X6) \wedge (r2\_anproj\_1\ X0\ X1\ X3\ X5)))) \Rightarrow (r2\_anproj\_1\ X0\ X2\ X4\ X6)))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((\neg v7\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v5\_rlvect\_1\ X1) \wedge ((v6\_rlvect\_1\ X1) \wedge ((v7\_rlvect\_1\ X1) \wedge ((v8\_rlvect\_1\ X1) \wedge (l1\_rlvect\_1\ X1))))))))))) \Rightarrow ((m1\_subset\_1\ X0\ (u1\_struct\_0\ (k5\_anproj\_1\ X1))) \Leftrightarrow (\exists X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1)) \wedge ((\neg v9\_struct\_0\ X2\ X1) \wedge (X0 = k2\_anproj\_1\ X1\ X2)))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v7\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k5\_anproj\_1\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k5\_anproj\_1\ X0)))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ (k5\_anproj\_1\ X0)))\Rightarrow((r1\_collsp\ (k5\_anproj\_1\ X0)\ X1\ X2\ X3)\Leftrightarrow(\exists X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\wedge(\exists X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\wedge(\exists X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X0))\wedge((X1 = k2\_anproj\_1\ X0\ X4)\wedge((X2 = k2\_anproj\_1\ X0\ X5)\wedge((X3 = k2\_anproj\_1\ X0\ X6)\wedge((\neg v9\_struct\_0\ X4\ X0)\wedge((\neg v9\_struct\_0\ X5\ X0)\wedge((\neg v9\_struct\_0\ X6\ X0)\wedge(r2\_anproj\_1\ X0\ X4\ X5\ X6))))))))))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v7\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\neg(\neg v9\_struct\_0\ X1\ X0)\wedge((\neg v9\_struct\_0\ X2\ X0)\wedge(\neg(k2\_anproj\_1\ X0\ X1 = k2\_anproj\_1\ X0\ X2)\Leftrightarrow(r1\_anproj\_1\ X0\ X1\ X2)))))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow(\neg(\neg r2\_anproj\_1\ X0\ X1\ X2\ X3)\wedge((r2\_anproj\_1\ X0\ X1\ X2\ X4)\wedge((r2\_anproj\_1\ X0\ X2\ X3\ X5)\wedge(\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X0))\Rightarrow(\neg(r2\_anproj\_1\ X0\ X1\ X3\ X6)\wedge((r2\_anproj\_1\ X0\ X4\ X5\ X6)\wedge(\neg v9\_struct\_0\ X6\ X0))))))))))) \tag{5}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v7\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k5\_anproj\_1\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k5\_anproj\_1\ X0)))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ (k5\_anproj\_1\ X0)))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ (k5\_anproj\_1\ X0)))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ (k5\_anproj\_1\ X0)))\Rightarrow(\neg(\neg r1\_collsp\ (k5\_anproj\_1\ X0)\ X1\ X2\ X3)\wedge((r1\_collsp\ (k5\_anproj\_1\ X0)\ X1\ X2\ X4)\wedge((r1\_collsp\ (k5\_anproj\_1\ X0)\ X2\ X3\ X5)\wedge(\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ (k5\_anproj\_1\ X0)))\Rightarrow(\neg(r1\_collsp\ (k5\_anproj\_1\ X0)\ X1\ X3\ X6)\wedge(r1\_collsp\ (k5\_anproj\_1\ X0)\ X4\ X5\ X6)))))))))))$$