

# l11\_anproj\_1

(TMN6SGA8Wjd7arwHfzesQ9i2PEaoHqxnWfs)

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Let  $v2\_struct.0 : \iota \Rightarrow o$  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  $l1\_rlvect.1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct.0 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_rlvect.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_rlvect.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal.0 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx.0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_algstr.0 : \iota \Rightarrow o$  be given. Let  $k1\_algstr.0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l2\_algstr.0 : \iota \Rightarrow o$  be given. Let  $l2\_struct.0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. ((m1\_subset.1 X0 k1\_numbers) \wedge (v1\_xreal.0 X1)) \Rightarrow (k7\_real.1 X0 X1 = k2\_xcmplx.0 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v2\_rlvect.1 X0) \wedge (l1\_algstr.0 X0)) \wedge ((m1\_subset.1 X1 (u1\_struct.0 X0)) \wedge (m1\_subset.1 X2 (u1\_struct.0 X0)))) \Rightarrow (k3\_rlvect.1 X0 X1 X2 = k1\_algstr.0 X0 X1 X2) \quad (2)$$

Assume the following.

$$\forall X0. (l2\_algstr.0 X0) \Rightarrow ((l2\_struct.0 X0) \wedge (l1\_algstr.0 X0)) \quad (3)$$

Assume the following.

$$\forall X0. (l1\_rlvect.1 X0) \Rightarrow (l2\_algstr.0 X0) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset.1 X0 k1\_numbers) \wedge (v1\_xreal.0 X1)) \Rightarrow (m1\_subset.1 (k7\_real.1 X0 X1) k1\_numbers) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((\neg v2\_struct.0 X0) \wedge (l1\_rlvect.1 X0)) \wedge ((m1\_subset.1 X1 (u1\_struct.0 X0)) \wedge (v1\_xreal.0 X2))) \Rightarrow (m1\_subset.1 (k1\_rlvect.1 X0 X1 X2) (u1\_struct.0 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_rlvect\_1 X0)) \Rightarrow ((v6\_rlvect\_1 \\ & X0) \Leftrightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2.(v1\_xreal\_0 X2) \Rightarrow \\ & (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (k1\_rlvect\_1 X0 \\ & X3 (k2\_xcmplx\_0 X1 X2) = k1\_algstr\_0 X0 (k1\_rlvect\_1 X0 X3 X1) (k1\_rlvect\_1 \\ & X0 X3 X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow (\forall X3.(m1\_subset\_1 \\ & X3 k1\_numbers) \Rightarrow (\forall X4.(m1\_subset\_1 X4 k1\_numbers) \Rightarrow (k1\_rlvect\_1 \\ & X0 X1 (k7\_real\_1 (k7\_real\_1 X2 X3) X4) = k3\_rlvect\_1 X0 (k3\_rlvect\_1 \\ & X0 (k1\_rlvect\_1 X0 X1 X2) (k1\_rlvect\_1 X0 X1 X3)) (k1\_rlvect\_1 X0 \\ & X1 X4)))))) \end{aligned}$$