

t73\_complfld (TM-  
RRG9hBhxdbZxie7XcNDD2iUpXTCcNbWpJ)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_complfld : \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k12\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k17\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k3\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k6\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_complex1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 k1\_complfld)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 k1\_complfld)) \Rightarrow (\forall X2.(v1\_xcmplx\_0 \\ & X2) \Rightarrow (\forall X3.(v1\_xcmplx\_0 X3) \Rightarrow (((X0 = X2) \wedge (X1 = X3)) \Rightarrow ((X1 = \\ & k4\_struct\_0 k1\_complfld) \vee (k3\_vectsp\_1 k1\_complfld X0 X1 = k6\_binop\_2 \\ & X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (k13\_complex1 \\ & (k17\_complex1 X0) (k17\_complex1 X1) = k17\_complex1 (k13\_complex1 \\ & X0 X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow ( \\ & k6\_binop\_2 X0 X1 = k7\_xcmplx\_0 X0 X1) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k17\_complex1 X0 = k16\_complex1 X0) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow ( \\ & k13\_complex1 X0 X1 = k7\_xcmplx\_0 X0 X1) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(k12\_binop\_2 X0 X1 = k7\_xcmplx\_0 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0)\Rightarrow(v1\_xreal\_0 (k16\_complex1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xcmplx\_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 k1\_complfld))\Rightarrow(v1\_xcmplx\_0 X0) \quad (9)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 k1\_complfld))\Rightarrow(\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 k1\_complfld))\Rightarrow((X0\neq k4\_struct\_0 k1\_complfld)\Rightarrow(k12\_binop\_2 (k17\_complex1 X1) (k17\_complex1 X0) = k17\_complex1 (k3\_vectsp\_1 k1\_complfld X1 X0))))$$