

t5_uniroots
(TMUbXpokoC9r3cgxa4saf8z4VzfNvpFi4Tg)

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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 $k1_numbers : \iota$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k5_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_struct_0 k1_complfld)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 k1_complfld)) \Rightarrow (\forall X2.(v1_xcmplx_0 \\ & X2) \Rightarrow (\forall X3.(v1_xcmplx_0 X3) \Rightarrow (((X0 = X2) \wedge (X1 = X3)) \Rightarrow (k8_group_1 \\ & k1_complfld X0 X1 = k5_binop_2 X2 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (k9_binop_2 X0 X1 = k2_xcmplx_0 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k5_binop_2 X0 X1 = k3_xcmplx_0 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k3_binop_2 X0 X1 = k2_xcmplx_0 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (k11_binop_2 X0 X1 = k3_xcmplx_0 X0 X1) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_xcmplx_0 X0) \wedge \\ & ((v1_xcmplx_0 X1) \wedge (m1_subset_1 X2 (u1_struct_0 k1_complfld)) \wedge \\ & (m1_subset_1 X3 (u1_struct_0 k1_complfld)))) \Rightarrow (((X2 = X0) \wedge (X3 = \\ & X1)) \Rightarrow (k1_algstr_0 k1_complfld X2 X3 = k3_binop_2 X0 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (u1_struct_0 k1_complfld)) \Rightarrow (v1_xcmplx_0 X0) \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_struct_0 k1_complfld)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 k1_complfld)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 k1_numbers) \Rightarrow (\forall X3.(m1_subset_1 X3 k1_numbers) \Rightarrow (((X2 = \\ & X0) \wedge (X3 = X1)) \Rightarrow ((k11_binop_2 X2 X3 = k8_group_1 k1_complfld X0 X1) \wedge \\ & (k9_binop_2 X2 X3 = k1_algstr_0 k1_complfld X0 X1)))))) \end{aligned}$$