

t11_hahnban1 (TM-
FvW5DS537ZKZuRjDcVA88A4PwLZQNZYgt)

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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 $k3_complex1 : \iota \Rightarrow \iota$ be given. Let $k8_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_complex1 : \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k5_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k5_binop_2 X0 X1 = k3_xcmplx_0 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((\\ & k3_complex1 (k3_xcmplx_0 X0 X1) = k9_real_1 (k8_real_1 (k3_complex1 \\ & X0) (k3_complex1 X1)) (k8_real_1 (k4_complex1 X0) (k4_complex1 \\ & X1))) \wedge (k4_complex1 (k3_xcmplx_0 X0 X1) = k7_real_1 (k8_real_1 \\ & (k3_complex1 X0) (k4_complex1 X1)) (k8_real_1 (k3_complex1 X1) \\ & (k4_complex1 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (u1_struct_0 k1_complfld)) \Rightarrow (v1_xcmplx_0 X0) \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_struct_0 k1_complfld)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 k1_complfld)) \Rightarrow ((k3_complex1 (k8_group_1 \\ & k1_complfld X0 X1) = k9_real_1 (k8_real_1 (k3_complex1 X0) (k3_complex1 \\ & X1)) (k8_real_1 (k4_complex1 X0) (k4_complex1 X1))) \wedge (k4_complex1 \\ & (k8_group_1 k1_complfld X0 X1) = k7_real_1 (k8_real_1 (k3_complex1 \\ & X0) (k4_complex1 X1)) (k8_real_1 (k3_complex1 X1) (k4_complex1 \\ & X0)))))) \end{aligned}$$