

t54_complfld
(TMaC2dvyUpDWUvBPkP9ZnzdSuQS6wc81Jng)

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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 $k2_complfld : \iota \Rightarrow \iota$ be given. Let $k8_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k15_complex1 : \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_numbers : \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_complex1 : \iota \Rightarrow \iota$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ be given. Let $v36_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v3_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v6_vectsp_1 : \iota \Rightarrow o$ 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 $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (k15_complex1 \\ (k3_xcmplx_0 X0 X1) = k9_complex1 (k15_complex1 X0) (k15_complex1 \\ X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((m1_subset_1 X0 k2_numbers) \wedge (m1_subset_1 \\ X1 k2_numbers)) \Rightarrow (k9_complex1 X0 X1 = k3_xcmplx_0 X0 X1) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v5_group_1 \\ X0) \wedge (l3_algstr_0 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge \\ m1_subset_1 X2 (u1_struct_0 X0))) \Rightarrow (k8_group_1 X0 X1 X2 = k6_algstr_0 \\ X0 X1 X2) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (\\ k5_binop_2 X0 X1 = k3_xcmplx_0 X0 X1) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (u1_struct_0 k1_complfld)) \Rightarrow (k2_complfld X0 = k14_complex1 X0) \quad (5)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k15_complex1 X0 = k14_complex1 X0) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_xcmplx_0 X0) \wedge \\ & ((v1_xcmplx_0 X1) \wedge ((m1_subset_1 X2 (u1_struct_0 k1_complfld)) \wedge \\ & (m1_subset_1 X3 (u1_struct_0 k1_complfld)))))) \Rightarrow (((X2 = X0) \wedge (X3 = \\ & X1)) \Rightarrow (k6_algstr_0 k1_complfld X2 X3 = k5_binop_2 X0 X1)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & (\neg v6_struct_0 k1_complfld) \wedge ((v13_algstr_0 k1_complfld) \wedge ((\\ & v33_algstr_0 k1_complfld) \wedge ((v36_algstr_0 k1_complfld) \wedge ((v3_group_1 \\ & k1_complfld) \wedge ((v5_group_1 k1_complfld) \wedge ((v3_vectsp_1 k1_complfld) \wedge \\ & ((v5_vectsp_1 k1_complfld) \wedge ((v6_vectsp_1 k1_complfld) \wedge ((v2_rlvect_1 \\ & k1_complfld) \wedge ((v3_rlvect_1 k1_complfld) \wedge (v4_rlvect_1 k1_complfld)))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$(\neg v2_struct_0 k1_complfld) \wedge (v36_algstr_0 k1_complfld) \quad (9)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0) \Rightarrow ((l4_algstr_0 X0) \wedge (l4_struct_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0) \Rightarrow ((l3_struct_0 X0) \wedge (l3_algstr_0 X0)) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((l3_algstr_0 X0) \wedge ((m1_subset_1 \\ & X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 \\ & (k6_algstr_0 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (u1_struct_0 k1_complfld)) \Rightarrow (m1_subset_1 (k2_complfld X0) (u1_struct_0 k1_complfld)) \quad (14)$$

Assume the following.

$$(v36_algstr_0 \ k1_complfld) \wedge (l6_algstr_0 \ k1_complfld) \quad (15)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 \ X0) \Rightarrow (m1_subset_1 \ (k15_complex1 \ X0) \ k2_numbers) \quad (16)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 \ X0) \Rightarrow (v1_xcmplx_0 \ (k14_complex1 \ X0)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 \ X0) \wedge (v1_xcmplx_0 \ X1)) \Rightarrow (k3_xcmplx_0 \ X0 \ X1 = k3_xcmplx_0 \ X1 \ X0) \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ (u1_struct_0 \ k1_complfld)) \Rightarrow (v1_xcmplx_0 \ X0) \quad (19)$$

Theorem 1

$$\forall X0.(m1_subset_1 \ X0 \ (u1_struct_0 \ k1_complfld)) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ (u1_struct_0 \ k1_complfld)) \Rightarrow (k2_complfld \ (k8_group_1 \ k1_complfld \ X0 \ X1) = k8_group_1 \ k1_complfld \ (k2_complfld \ X0) \ (k2_complfld \ X1)))$$