

t10_hermitan

(TMS2ZDpiWPH9mspX5r1h2pjE58TVYMj2oMT)

October 27, 2020

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 $k4_complex1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k3_complex1 : \iota \Rightarrow \iota$ be given. Let $k8_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k5_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_0 : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k5_complex1 : \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_complex1 : \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k5_arytm_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v5_group_1 : \iota \Rightarrow o$ 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 $v1_membered : \iota \Rightarrow o$ be given. Let $k2_numbers : \iota$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $k5_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k27_binop_2 : \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k29_binop_2 : \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_complex1 : \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$(m2_subset_1 np_0 k1_numbers k5_numbers) \wedge ((m1_subset_1 np_0 k5_numbers) \wedge (m1_subset_1 np_0 k1_numbers)) \tag{2}$$

Assume the following.

$$k2_xcmplx_0 np_1 (k4_xcmplx_0 np_1) = np_0 \tag{3}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (4)$$

Assume the following.

$$k5_complex1 = k1_xboole_0 \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k5_binop_2 X0 X1 = k3_xcmplx_0 X0 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1. (v1_xcmplx_0 \\ X1) \Rightarrow ((k3_complex1 (k3_xcmplx_0 (k3_xcmplx_0 X0 k7_complex1) \\ X1) = k1_real_1 (k8_real_1 X0 (k4_complex1 X1))) \wedge ((k4_complex1 \\ (k3_xcmplx_0 (k3_xcmplx_0 X0 k7_complex1) X1) = k8_real_1 X0 (k3_complex1 \\ X1)) \wedge ((k3_complex1 (k3_xcmplx_0 X0 X1) = k8_real_1 X0 (k3_complex1 \\ X1)) \wedge (k4_complex1 (k3_xcmplx_0 X0 X1) = k8_real_1 X0 (k4_complex1 \\ X1)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 X0) \Rightarrow (k5_arytm_0 (k3_complex1 X0) (k4_complex1 X0) = X0) \quad (8)$$

Assume the following.

$$k2_xcmplx_0 np_1 (k4_xcmplx_0 np_1) = k6_numbers \quad (9)$$

Assume the following.

$$\begin{aligned} (\neg v6_struct_0 k1_complfld) \wedge ((v13_algstr_0 k1_complfld) \wedge ((\\ v33_algstr_0 k1_complfld) \wedge ((v36_algstr_0 k1_complfld) \wedge ((v3_group_1 \\ k1_complfld) \wedge ((v5_group_1 k1_complfld) \wedge ((v3_vectsp_1 k1_complfld) \wedge \\ ((v5_vectsp_1 k1_complfld) \wedge ((v6_vectsp_1 k1_complfld) \wedge ((v2_rlvect_1 \\ k1_complfld) \wedge ((v3_rlvect_1 k1_complfld) \wedge (v4_rlvect_1 k1_complfld)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$v1_membered k2_numbers \quad (11)$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 X0) \Rightarrow (m1_subset_1 (k3_complex1 X0) k1_numbers) \quad (12)$$

Assume the following.

$$(v36_algstr_0 \ k1_complfld) \wedge (l6_algstr_0 \ k1_complfld) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (\forall X1. (m1_subset_1 \\ X1 \ k1_numbers) \Rightarrow (((X1 = k6_numbers) \Rightarrow (k5_arytm_0 \ X0 \ X1 = X0)) \wedge ((\\ X1 \neq k6_numbers) \Rightarrow (k5_arytm_0 \ X0 \ X1 = k5_funct_4 \ k1_numbers \ k6_numbers \\ np_1 \ X0 \ X1)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v36_algstr_0 \ X0) \wedge (l6_algstr_0 \ X0)) \Rightarrow ((X0 = k1_complfld) \Leftrightarrow \\ ((u1_struct_0 \ X0 = k2_numbers) \wedge ((u1_algstr_0 \ X0 = k27_binop_2) \wedge \\ ((u2_algstr_0 \ X0 = k29_binop_2) \wedge ((k5_struct_0 \ X0 = k6_complex1) \wedge \\ (k4_struct_0 \ X0 = k5_complex1)))))) \end{aligned} \quad (15)$$

Assume the following.

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

Assume the following.

$$\forall X0. (v1_membered \ X0) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ X0) \Rightarrow (v1_xcmplx_0 \ X1)) \quad (17)$$

Theorem 1

$$\begin{aligned} \forall X0. (m1_subset_1 \ X0 \ (u1_struct_0 \ k1_complfld)) \Rightarrow (\forall X1. \\ (m1_subset_1 \ X1 \ (u1_struct_0 \ k1_complfld)) \Rightarrow ((k4_complex1 \ X0 = \\ k6_numbers) \Rightarrow ((k3_complex1 \ (k8_group_1 \ k1_complfld \ X0 \ X1) = k8_real_1 \\ (k3_complex1 \ X0) \ (k3_complex1 \ X1)) \wedge (k4_complex1 \ (k8_group_1 \\ k1_complfld \ X0 \ X1) = k8_real_1 \ (k3_complex1 \ X0) \ (k4_complex1 \ X1)))) \end{aligned}$$