

t9_zmodul01

(TMHsrxqvqNZZX7yAusyHakyFjyr4hefRiF5)

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Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ 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 $v2_zmodul01 : \iota \Rightarrow o$ be given. Let $v3_zmodul01 : \iota \Rightarrow o$ be given. Let $v4_zmodul01 : \iota \Rightarrow o$ be given. Let $v5_zmodul01 : \iota \Rightarrow o$ be given. Let $l1_zmodul01 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v1_int_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 \\ X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\ ((v2_zmodul01 X1) \wedge ((v3_zmodul01 X1) \wedge ((v4_zmodul01 X1) \wedge ((v5_zmodul01 \\ X1) \wedge (l1_zmodul01 X1)))))))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (\\ u1_struct_0 X1)) \Rightarrow (k1_zmodul01 X1 (k4_algstr_0 X1 X2) X0 = k4_algstr_0 \\ X1 (k1_zmodul01 X1 X2 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_int_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 \\ X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\ ((v2_zmodul01 X1) \wedge ((v3_zmodul01 X1) \wedge ((v4_zmodul01 X1) \wedge ((v5_zmodul01 \\ X1) \wedge (l1_zmodul01 X1)))))))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (\\ u1_struct_0 X1)) \Rightarrow (k1_zmodul01 X1 (k4_algstr_0 X1 X2) X0 = k1_zmodul01 \\ X1 X2 (k4_xcmplx_0 X0)))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (\\ k2_xcmplx_0 X0 (k4_xcmplx_0 X1) = k6_xcmplx_0 X0 X1) \tag{3}$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow ((v1_xcmplx_0 (k4_xcmplx_0 X0)) \wedge (v1_int_1 (k4_xcmplx_0 X0))) \quad (4)$$

Assume the following.

$$\forall X0.(l1_zmodul01 X0) \Rightarrow (l2_algstr_0 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (l1_zmodul01 X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (v1_int_1 X2))) \Rightarrow (m1_subset_1 (k1_zmodul01 X0 X1 X2) (u1_struct_0 X0))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_zmodul01 X0)) \Rightarrow ((v3_zmodul01 X0) \Leftrightarrow (\forall X1.(v1_int_1 X1) \Rightarrow (\forall X2.(v1_int_1 X2) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k1_zmodul01 X0 X3 (k2_xcmplx_0 X1 X2) = k1_algstr_0 X0 (k1_zmodul01 X0 X3 X1) (k1_zmodul01 X0 X3 X2))))))) \quad (7)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k5_algstr_0 X0 X1 X2 = k1_algstr_0 X0 X1 (k4_algstr_0 X0 X2)))) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (v1_xreal_0 X0) \quad (10)$$

Theorem 1

$$\forall X0.(v1_int_1 X0) \Rightarrow (\forall X1.(v1_int_1 X1) \Rightarrow (\forall X2.(((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge ((v2_zmodul01 X2) \wedge ((v3_zmodul01 X2) \wedge ((v4_zmodul01 X2) \wedge ((v5_zmodul01 X2) \wedge (l1_zmodul01 X2)))))))))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X2)) \Rightarrow (k1_zmodul01 X2 X3 (k6_xcmplx_0 X0 X1) = k5_algstr_0 X2 (k1_zmodul01 X2 X3 X0) (k1_zmodul01 X2 X3 X1)))))))$$