

t2_zmodul01
(TMPK7AYG433hp4cChncayarsBL4NrvE8Vzm)

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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 $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ 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 $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $np_0 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow ((k1_algstr_0 X0 X1 (k4_struct_0 X0) = X1) \wedge \\ & (k1_algstr_0 X0 (k4_struct_0 X0) X1 = X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_int_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 \\ & X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\ & ((v2_zmodul01 X1) \wedge ((v3_zmodul01 X1) \wedge ((v4_zmodul01 X1) \wedge ((v5_zmodul01 \\ & X1) \wedge (l1_zmodul01 X1)))))))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (\\ & u1_struct_0 X1)) \Rightarrow (((X0 = k6_numbers) \vee (X2 = k4_struct_0 X1)) \Rightarrow (\\ & k1_zmodul01 X1 X2 X0 = k4_struct_0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$v1_xboole_0 \ np_0 \quad (5)$$

Assume the following.

$$k4_xcmplx_0 \ (k4_xcmplx_0 \ np_1) = np_1 \quad (6)$$

Assume the following.

$$k2_xcmplx_0 \ (k4_xcmplx_0 \ np_1) \ np_1 = np_0 \quad (7)$$

Assume the following.

$$k2_xcmplx_0 \ np_1 \ (k4_xcmplx_0 \ np_1) = np_0 \quad (8)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (9)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v2_rlvect_1 \ X0) \wedge (l1_algstr_0 \\ & X0)) \wedge ((m1_subset_1 \ X1 \ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ X2 \ (u1_struct_0 \\ & X0)))) \Rightarrow (k3_rlvect_1 \ X0 \ X1 \ X2 = k1_algstr_0 \ X0 \ X1 \ X2) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0. (v1_int_1 \ X0) \Rightarrow ((v1_xcmplx_0 \ (k4_xcmplx_0 \ X0)) \wedge (v1_int_1 \ (k4_xcmplx_0 \ X0))) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_int_1 \ X0) \wedge (v1_int_1 \ X1)) \Rightarrow (v1_int_1 \ (k2_xcmplx_0 \ X0 \ X1)) \quad (13)$$

Assume the following.

$$\forall X0. (l2_algstr_0 \ X0) \Rightarrow ((l2_struct_0 \ X0) \wedge (l1_algstr_0 \ X0)) \quad (14)$$

Assume the following.

$$\forall X0. (l1_zmodul01 \ X0) \Rightarrow (l2_algstr_0 \ X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2_rlvect_1 X0)\wedge(l1_algstr_0 X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k3_rlvect_1 X0 X1 X2) (u1_struct_0 X0)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l1_zmodul01 X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(v1_int_1 X2)))\Rightarrow(m1_subset_1 (k1_zmodul01 X0 X1 X2) (u1_struct_0 X0)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_algstr_0 X0)\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k1_algstr_0 X0 X1 X2) (u1_struct_0 X0)) \quad (18)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_zmodul01 X0))\Rightarrow((v5_zmodul01 X0)\Leftrightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(k1_zmodul01 X0 X1 np_1 = X1))) \quad (19)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_zmodul01 X0))\Rightarrow((v3_zmodul01 X0)\Leftrightarrow(\forall X1.(v1_int_1 X1)\Rightarrow(\forall X2.(v1_int_1 X2)\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow(k1_zmodul01 X0 X3 (k2_xcmplx_0 X1 X2) = k1_algstr_0 X0 (k1_zmodul01 X0 X3 X1) (k1_zmodul01 X0 X3 X2)))))) \quad (20)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l2_algstr_0 X0))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge(v13_algstr_0 X0)))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow((X2 = k4_algstr_0 X0 X1)\Leftrightarrow(k1_algstr_0 X0 X1 X2 = k4_struct_0 X0)))))) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (22)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v1_int_1 X0) \quad (23)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\ & ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (k4_algstr_0 X0 X1 = k1_zmodul01 X0 X1 (k4_xcmplx_0 np_1))) \end{aligned}$$