

l206_zmodul01 (TMTvWvRx-
izd5Qth1teFHioYFQyUvKXmYTgH)

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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 $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_numbers : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_zmodul01 : \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 X0 \ k6_numbers = k6_numbers) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 \ k4_numbers) \Rightarrow (k2_binop_1 \ k4_numbers \ (u1_struct_0 X0) \ (u1_struct_0 \\ & X0) \ (k12_zmodul01 X0) \ X1 \ (k4_struct_0 X0) = k4_struct_0 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l2_algstr_0 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 \ (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & k4_numbers) \Rightarrow ((X2 = k6_numbers) \Rightarrow (k2_binop_1 \ k4_numbers \ (u1_struct_0 \\ & X0) \ (u1_struct_0 X0) \ (k12_zmodul01 X0) \ X2 \ X1 = k4_struct_0 X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & ((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(((v1_funct_1 X3)\wedge(\\ & v1_funct_2 X3 (k2_zfmisc_1 X0 X1) X2)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) X2))))))\wedge((m1_subset_1 X4 X0)\wedge \\ & (m1_subset_1 X5 X1))))\Rightarrow(k2_binop_1 X0 X1 X2 X3 X4 X5 = k1_binop_1 \\ & X3 X4 X5) \end{aligned} \tag{4}$$

Assume the following.

$$\neg v1_xboole_0 k4_numbers \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \tag{6}$$

Assume the following.

$$\forall X0.(l2_struct_0 X0)\Rightarrow(l1_struct_0 X0) \tag{7}$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & ((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(((v1_funct_1 X3)\wedge(\\ & v1_funct_2 X3 (k2_zfmisc_1 X0 X1) X2)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) X2))))))\wedge((m1_subset_1 X4 X0)\wedge \\ & (m1_subset_1 X5 X1))))\Rightarrow(m1_subset_1 (k2_binop_1 X0 X1 X2 X3 X4 \\ & X5) X2) \end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l2_algstr_0 X0))\Rightarrow((v1_funct_1 \\ & (k12_zmodul01 X0))\wedge((v1_funct_2 (k12_zmodul01 X0) (k2_zfmisc_1 \\ & k4_numbers (u1_struct_0 X0)) (u1_struct_0 X0))\wedge(m1_subset_1 \\ & (k12_zmodul01 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k4_numbers \\ & (u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(k3_xcmplx_0 X0 X1 = k3_xcmplx_0 X1 X0) \tag{11}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \tag{12}$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (v1_xreal_0 X0) \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_numbers) \Rightarrow (v1_int_1 X0) \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 k4_numbers) \Rightarrow (\forall X3.(m1_subset_1 X3 k4_numbers) \Rightarrow (((X2 = \\ & k6_numbers) \vee (X3 = k6_numbers)) \Rightarrow (k1_binop_1 (k12_zmodul01 X0) \\ & (k3_xcmplx_0 X2 X3) X1 = k2_binop_1 k4_numbers (u1_struct_0 X0) \\ & (u1_struct_0 X0) (k12_zmodul01 X0) X2 (k2_binop_1 k4_numbers (\\ & u1_struct_0 X0) (u1_struct_0 X0) (k12_zmodul01 X0) X3 X1)))))) \end{aligned}$$