

l43_algstr_1
(TMNn8GbmgczdNkZpf46P9FBiisafi5nkma5)

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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 $k3_algstr_1 : \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ 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 $v1_funct_1 : \iota \Rightarrow o$ 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 $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ 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 $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Let $v29_algstr_0 : \iota \Rightarrow o$ be given. Let $k35_binop_2 : \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $u3_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (\forall X2. \\ & (v1_xcmplx_0 X2) \Rightarrow ((k3_xcmplx_0 X1 X0 = k3_xcmplx_0 X2 X0) \Rightarrow ((X0 = \\ & k6_numbers) \vee (X1 = X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & (m2_subset_1 np_0 k1_numbers k5_numbers) \wedge ((m1_subset_1 np_0 \\ & k5_numbers) \wedge (m1_subset_1 np_0 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$v1_xboole_0 \text{ np_}0 \quad (5)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X1)\wedge \\ & ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((m1_subset_1 X2 X0)\wedge \\ & (m1_subset_1 X3 X0)))\Rightarrow(k5_binop_1 X0 X1 X2 X3 = k1_binop_1 X1 X2 X3) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(k11_binop_2 X0 X1 = k3_xcmplx_0 X0 X1) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X1)\wedge \\ & ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((m1_subset_1 X2 X0)\wedge \\ & (m1_subset_1 X3 X0)))\Rightarrow(\forall X4.\forall X5.\forall X6.\forall X7. \\ & (g5_algstr_0 X0 X1 X2 X3 = g5_algstr_0 X4 X5 X6 X7)\Rightarrow((X0 = X4)\wedge((X1 = \\ & X5)\wedge((X2 = X6)\wedge(X3 = X7)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l3_algstr_0 X0)\Rightarrow((v1_funct_1 (u2_algstr_0 X0))\wedge \\ & ((v1_funct_2 (u2_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0))\wedge(m1_subset_1 (u2_algstr_0 \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (10)$$

Assume the following.

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

Assume the following.

$$\forall X0.(l4_struct_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l3_struct_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0)\Rightarrow((l3_struct_0 X0)\wedge(l3_algstr_0 X0)) \quad (13)$$

Assume the following.

$$(v29_algstr_0 k3_algstr_1)\wedge(l5_algstr_0 k3_algstr_1) \quad (14)$$

Assume the following.

$$(v1_funct_1 \ k35_binop_2) \wedge ((v1_funct_2 \ k35_binop_2 \ (k2_zfmisc_1 \ k1_numbers \ k1_numbers) \ k1_numbers) \wedge (m1_subset_1 \ k35_binop_2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ k1_numbers \ k1_numbers) \ k1_numbers)))) \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 \ X1) \wedge ((v1_funct_2 \ X1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0)))))) \wedge ((m1_subset_1 \ X2 \ X0) \wedge (m1_subset_1 \ X3 \ X0))) \Rightarrow ((v29_algstr_0 \ (g5_algstr_0 \ X0 \ X1 \ X2 \ X3)) \wedge (l5_algstr_0 \ (g5_algstr_0 \ X0 \ X1 \ X2 \ X3))) \quad (16)$$

Assume the following.

$$k3_algstr_1 = g5_algstr_0 \ k1_numbers \ k35_binop_2 \ k6_numbers \ np_1 \quad (17)$$

Assume the following.

$$\forall X0. (l2_struct_0 \ X0) \Rightarrow (k4_struct_0 \ X0 = u2_struct_0 \ X0) \quad (18)$$

Assume the following.

$$\forall X0. (l3_algstr_0 \ X0) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ (u1_struct_0 \ X0)) \Rightarrow (\forall X2. (m1_subset_1 \ X2 \ (u1_struct_0 \ X0)) \Rightarrow (k6_algstr_0 \ X0 \ X1 \ X2 = k5_binop_1 \ (u1_struct_0 \ X0) \ (u2_algstr_0 \ X0) \ X1 \ X2))) \quad (19)$$

Assume the following.

$$\forall X0. ((v1_funct_1 \ X0) \wedge ((v1_funct_2 \ X0 \ (k2_zfmisc_1 \ k1_numbers \ k1_numbers) \ k1_numbers) \wedge (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ k1_numbers \ k1_numbers) \ k1_numbers)))))) \Rightarrow ((X0 = k35_binop_2) \Leftrightarrow (\forall X1. (v1_xreal_0 \ X1) \Rightarrow (\forall X2. (v1_xreal_0 \ X2) \Rightarrow (k1_binop_1 \ X0 \ X1 \ X2 = k11_binop_2 \ X1 \ X2)))) \quad (20)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xreal_0 \ X0) \wedge (v1_xreal_0 \ X1)) \Rightarrow (k11_binop_2 \ X0 \ X1 = k11_binop_2 \ X1 \ X0) \quad (21)$$

Assume the following.

$$\forall X0. (v1_xreal_0 \ X0) \Rightarrow (v1_xcmplx_0 \ X0) \quad (22)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (v1_xreal_0 \ X0) \quad (23)$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0) \Rightarrow ((v29_algstr_0 X0) \Rightarrow (X0 = g5_algstr_0 (u1_struct_0 X0) (u2_algstr_0 X0) (u2_struct_0 X0) (u3_struct_0 X0))) \quad (24)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 (u1_struct_0 k3_algstr_1)) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 k3_algstr_1)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 k3_algstr_1)) \Rightarrow ((k6_algstr_0 k3_algstr_1 X0 X1 = k6_algstr_0 k3_algstr_1 X0 X2) \Rightarrow ((X0 = k4_struct_0 k3_algstr_1) \vee (X1 = X2)))))$$