

t22_bcialg_4

(TMZFvwLxN28eWcHYEbYBQNwQJyHzedqgSmA)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_bcialg_1 : \iota \Rightarrow o$ be given. Let $v4_bcialg_1 : \iota \Rightarrow o$ be given. Let $v5_bcialg_1 : \iota \Rightarrow o$ be given. Let $v7_bcialg_1 : \iota \Rightarrow o$ be given. Let $v2_bcialg_4 : \iota \Rightarrow o$ be given. Let $l1_bcialg_4 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_bcialg_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_bcialg_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v2_xxreal_0 : \iota \Rightarrow o$ 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 $k6_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k5_bcialg_4 : \iota \Rightarrow \iota$ 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 $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\ & (l1_bcialg_4 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow ((k1_bcialg_4 X0 (k4_struct_0 X0) X1 = X1) \wedge (k1_bcialg_4 X0 \\ & X1 (k4_struct_0 X0) = X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

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.

$$k2_xcmplx_0 \text{ } np_1 \text{ } np_0 = np_1 \quad (6)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \text{ } X0 \text{ } k5_numbers) \wedge (v7_ordinal1 \text{ } X1)) \Rightarrow (k2_nat_1 \text{ } X0 \text{ } X1 = k2_xcmplx_0 \text{ } X0 \text{ } X1) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 \text{ } X0) \wedge ((v3_bcialg_1 \text{ } X0) \wedge ((v4_bcialg_1 \\ & \text{ } X0) \wedge ((v5_bcialg_1 \text{ } X0) \wedge ((v7_bcialg_1 \text{ } X0) \wedge ((v2_bcialg_4 \text{ } X0) \wedge \\ & (l1_bcialg_4 \text{ } X0)))))) \Rightarrow ((v1_funct_1 \text{ } (k5_bcialg_4 \text{ } X0)) \wedge ((v1_funct_2 \\ & (k5_bcialg_4 \text{ } X0) \text{ } (k2_zfmisc_1 \text{ } (u1_struct_0 \text{ } X0) \text{ } k5_numbers) \text{ } (u1_struct_0 \\ & \text{ } X0)) \wedge (m1_subset_1 \text{ } (k5_bcialg_4 \text{ } X0) \text{ } (k1_zfmisc_1 \text{ } (k2_zfmisc_1 \\ & (k2_zfmisc_1 \text{ } (u1_struct_0 \text{ } X0) \text{ } k5_numbers) \text{ } (u1_struct_0 \text{ } X0)))))) \quad (10) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 \text{ } X0) \wedge ((v3_bcialg_1 \text{ } X0) \wedge ((v4_bcialg_1 \\ & \text{ } X0) \wedge ((v5_bcialg_1 \text{ } X0) \wedge ((v7_bcialg_1 \text{ } X0) \wedge ((v2_bcialg_4 \text{ } X0) \wedge \\ & (l1_bcialg_4 \text{ } X0)))))) \Rightarrow (\forall X1. (m1_subset_1 \text{ } X1 \text{ } (u1_struct_0 \\ & \text{ } X0)) \Rightarrow (\forall X2. (m1_subset_1 \text{ } X2 \text{ } k5_numbers) \Rightarrow (k6_bcialg_4 \text{ } X0 \\ & \text{ } X1 \text{ } X2 = k2_binop_1 \text{ } (u1_struct_0 \text{ } X0) \text{ } k5_numbers \text{ } (u1_struct_0 \text{ } X0) \\ & (k5_bcialg_4 \text{ } X0) \text{ } X1 \text{ } X2))) \quad (11) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 \text{ } X0) \wedge ((v3_bcialg_1 \text{ } X0) \wedge ((v4_bcialg_1 \\ & \text{ } X0) \wedge ((v5_bcialg_1 \text{ } X0) \wedge ((v7_bcialg_1 \text{ } X0) \wedge ((v2_bcialg_4 \text{ } X0) \wedge \\ & (l1_bcialg_4 \text{ } X0)))))) \Rightarrow (\forall X1. ((v1_funct_1 \text{ } X1) \wedge ((v1_funct_2 \\ & \text{ } X1 \text{ } (k2_zfmisc_1 \text{ } (u1_struct_0 \text{ } X0) \text{ } k5_numbers) \text{ } (u1_struct_0 \text{ } X0)) \wedge \\ & (m1_subset_1 \text{ } X1 \text{ } (k1_zfmisc_1 \text{ } (k2_zfmisc_1 \text{ } (k2_zfmisc_1 \text{ } (u1_struct_0 \\ & \text{ } X0) \text{ } k5_numbers) \text{ } (u1_struct_0 \text{ } X0)))))) \Rightarrow ((X1 = k5_bcialg_4 \text{ } X0) \Leftrightarrow \\ & (\forall X2. (m1_subset_1 \text{ } X2 \text{ } (u1_struct_0 \text{ } X0)) \Rightarrow ((k2_binop_1 \text{ } (\\ & u1_struct_0 \text{ } X0) \text{ } k5_numbers \text{ } (u1_struct_0 \text{ } X0) \text{ } X1 \text{ } X2 \text{ } k6_numbers = k4_struct_0 \\ & \text{ } X0) \wedge (\forall X3. (m1_subset_1 \text{ } X3 \text{ } k5_numbers) \Rightarrow (k2_binop_1 \text{ } (u1_struct_0 \\ & \text{ } X0) \text{ } k5_numbers \text{ } (u1_struct_0 \text{ } X0) \text{ } X1 \text{ } X2 \text{ } (k2_nat_1 \text{ } X3 \text{ } np_1) = k1_bcialg_4 \\ & \text{ } X0 \text{ } (k2_binop_1 \text{ } (u1_struct_0 \text{ } X0) \text{ } k5_numbers \text{ } (u1_struct_0 \text{ } X0) \text{ } X1 \\ & \text{ } X2 \text{ } X3) \text{ } X2)))))) \quad (12) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers)\wedge(v7_ordinal1 X1))\Rightarrow(k2_nat_1 X0 X1 = k2_nat_1 X1 X0) \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (14)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v3_bialg_1 X0)\wedge((v4_bialg_1 X0)\wedge((v5_bialg_1 X0)\wedge((v7_bialg_1 X0)\wedge((v2_bialg_4 X0)\wedge(l1_bialg_4 X0))))))))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(k6_bialg_4 X0 X1 np_1 = X1))$$