

t2_bcialg_6 (TMarz-
aBY1KrL3RLHFkw7rqXXaqjgUTnMZsZ)

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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 $l2_bcialg_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k3_bcialg_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k23_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k4_ordinal1 : \iota$ 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 $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l1_bcialg_1 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $k2_bcialg_6 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (3)$$

Assume the following.

$$((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (((v1_funct_1 X3) \wedge (\\ & v1_funct_2 X3 (k2_zfmisc_1 X0 X1) X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) X2)))))) \wedge ((m1_subset_1 X4 X0) \wedge \\ & (m1_subset_1 X5 X1)))) \Rightarrow (k2_binop_1 X0 X1 X2 X3 X4 X5 = k1_binop_1 \\ & X3 X4 X5) \end{aligned} \quad (7)$$

Assume the following.

$$\exists X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)) \wedge ((\neg v1_xboole_0 X0) \wedge (v3_ordinal1 X0)) \quad (8)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.\exists X1.m1_subset_1 X1 X0 \quad (11)$$

Assume the following.

$$\forall X0.(l2_bcialg_1 X0) \Rightarrow ((l1_bcialg_1 X0) \wedge (l2_struct_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l1_bcialg_1 X0) \Rightarrow (l1_struct_0 X0) \quad (13)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow ((v1_funct_1 \\ & (k2_bcialg_6 X0)) \wedge ((v1_funct_2 (k2_bcialg_6 X0) (k2_zfmisc_1 \\ & (u1_struct_0 X0) k5_numbers) (u1_struct_0 X0)) \wedge (m1_subset_1 \\ & (k2_bcialg_6 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) k5_numbers) (u1_struct_0 X0)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow(m2_subset_1\ (k23_binop_2\ X0\ X1)\ k1_numbers\ k5_numbers) \quad (16)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge((v3_bialg_1\ X0)\wedge((v4_bialg_1 \\ &X0)\wedge((v5_bialg_1\ X0)\wedge((v7_bialg_1\ X0)\wedge(l2_bialg_1\ X0))))))\Rightarrow \\ &(\forall X1.(v7_ordinal1\ X1)\Rightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0 \\ &X0))\Rightarrow(k3_bialg_6\ X0\ X1\ X2 = k1_binop_1\ (k2_bialg_6\ X0\ X2\ X1))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge(l2_bialg_1\ X0))\Rightarrow(\forall X1. \\ &((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ (k2_zfmisc_1\ (u1_struct_0\ X0) \\ &k5_numbers)\ (u1_struct_0\ X0))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (\\ &k2_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ k5_numbers)\ (u1_struct_0 \\ &X0))))))\Rightarrow((X1 = k2_bialg_6\ X0)\Leftrightarrow(\forall X2.(m1_subset_1\ X2\ (\\ &u1_struct_0\ X0))\Rightarrow((k2_binop_1\ (u1_struct_0\ X0)\ k5_numbers\ (u1_struct_0 \\ &X0)\ X1\ X2\ k6_numbers = k4_struct_0\ X0)\wedge(\forall X3.(m1_subset_1 \\ &X3\ k5_numbers)\Rightarrow(k2_binop_1\ (u1_struct_0\ X0)\ k5_numbers\ (u1_struct_0 \\ &X0)\ X1\ X2\ (k23_binop_2\ X3\ np_1) = k1_bialg_1\ X0\ X2\ (k2_bialg_1 \\ &X0\ (k2_binop_1\ (u1_struct_0\ X0)\ k5_numbers\ (u1_struct_0\ X0)\ X1 \\ &X2\ X3)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Leftrightarrow(X0 \in k4_ordinal1) \quad (19)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1)\Rightarrow(v7_ordinal1\ X0) \quad (20)$$

Theorem 1

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge((v3_bialg_1\ X0)\wedge((v4_bialg_1 \\ &X0)\wedge((v5_bialg_1\ X0)\wedge((v7_bialg_1\ X0)\wedge(l2_bialg_1\ X0))))))\Rightarrow \\ &(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow(\forall X2.(v7_ordinal1 \\ &X2)\Rightarrow(k3_bialg_6\ X0\ (k23_binop_2\ X2\ np_1)\ X1 = k1_bialg_1\ X0\ X1 \\ &(k2_bialg_1\ X0\ (k3_bialg_6\ X0\ X2\ X1)))) \end{aligned}$$