

t4_bcialg_6

(TMbMhubqZV3mJb9qerHeW9XDFxZb1BtpJtk)

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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 $k3_bcialg_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ 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 $v1_funct_1 : \iota \Rightarrow o$ 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 $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k23_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_bcialg_1 : \iota \Rightarrow o$ be given. Let $k2_bcialg_6 : \iota \Rightarrow \iota$ be given. Let $k2_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_bcialg_1 X0 \\ & X1 (k4_struct_0 X0) = X1)) \end{aligned} \quad (2)$$

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.

$$v1_xboole_0 \ np_0 \tag{5}$$

Assume the following.

$$k2_xcmplx_0 \ np_0 \ np_1 = np_1 \tag{6}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{7}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((\neg v1_xboole_0 \ X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge (((v1_funct_1 \ X3) \wedge (\\ & v1_funct_2 \ X3 \ (k2_zfmisc_1 \ X0 \ X1) \ X2) \wedge (m1_subset_1 \ X3 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1) \ X2)))))) \wedge ((m1_subset_1 \ X4 \ X0) \wedge \\ & (m1_subset_1 \ X5 \ X1)))) \Rightarrow (k2_binop_1 \ X0 \ X1 \ X2 \ X3 \ X4 \ X5 = k1_binop_1 \\ & \quad \quad \quad X3 \ X4 \ X5) \end{aligned} \tag{9}$$

Assume the following.

$$\forall X0. \forall X1. ((v7_ordinal1 \ X0) \wedge (v7_ordinal1 \ X1)) \Rightarrow (\\ k23_binop_2 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \tag{10}$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \tag{11}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 \ X0) \wedge (l1_struct_0 \ X0)) \Rightarrow (\neg v1_xboole_0 \\ (u1_struct_0 \ X0)) \tag{12}$$

Assume the following.

$$\forall X0. (l2_struct_0 \ X0) \Rightarrow (l1_struct_0 \ X0) \tag{13}$$

Assume the following.

$$\forall X0. (l2_bcialg_1 \ X0) \Rightarrow ((l1_bcialg_1 \ X0) \wedge (l2_struct_0 \ X0)) \tag{14}$$

Assume the following.

$$\forall X0. (l2_struct_0 \ X0) \Rightarrow (m1_subset_1 \ (k4_struct_0 \ X0) \ (u1_struct_0 \\ X0)) \tag{15}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow ((v1_funct_1 \\ (k2_bcialg_6 X0)) \wedge ((v1_funct_2 (k2_bcialg_6 X0) (k2_zfmisc_1 \\ (u1_struct_0 X0) k5_numbers) (u1_struct_0 X0)) \wedge (m1_subset_1 \\ (k2_bcialg_6 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ X0) k5_numbers) (u1_struct_0 X0)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ X0)) \Rightarrow (k3_bcialg_6 X0 X1 X2 = k1_binop_1 (k2_bcialg_6 X0) X2 X1))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k2_bcialg_1 X0 X1 = k1_bcialg_1 \\ X0 (k4_struct_0 X0) X1)) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow (\forall X1. \\ ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 (u1_struct_0 X0) \\ k5_numbers) (u1_struct_0 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) k5_numbers) (u1_struct_0 \\ X0)))))) \Rightarrow ((X1 = k2_bcialg_6 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (\\ u1_struct_0 X0)) \Rightarrow ((k2_binop_1 (u1_struct_0 X0) k5_numbers (u1_struct_0 \\ X0) X1 X2 k6_numbers = k4_struct_0 X0) \wedge (\forall X3.(m1_subset_1 \\ X3 k5_numbers) \Rightarrow (k2_binop_1 (u1_struct_0 X0) k5_numbers (u1_struct_0 \\ X0) X1 X2 (k23_binop_2 X3 np_1) = k1_bcialg_1 X0 X2 (k2_bcialg_1 \\ X0 (k2_binop_1 (u1_struct_0 X0) k5_numbers (u1_struct_0 X0) X1 \\ X2 X3))))))))) \end{aligned} \quad (19)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v7_ordinal1 X0) \quad (21)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k3_bcialg_6 X0 \\ np_1 X1 = X1)) \end{aligned}$$