

t33_bcialg_1

(TMRTT_{v2eWcp}xtfQQ9j1fD4wU9UwpT1xkahR)

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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 $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_bcialg_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k2_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $l1_bcialg_1 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ 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.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ & (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((X1 \in k5_bcialg_1 \\ & X0) \Leftrightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k2_bcialg_1 \\ & X0 (k2_bcialg_1 X0 (k1_bcialg_1 X0 X1 X2)) = k1_bcialg_1 X0 X1 X2)))) \quad (2) \end{aligned}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ & (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((X1 \in k5_bcialg_1 \\ & X0) \Leftrightarrow (k2_bcialg_1 X0 (k2_bcialg_1 X0 X1) = X1))) \quad (4) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ & (k4_struct_0 X0 \in k5_bcialg_1 X0) \quad (5) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l2_bcialg_1 X0)\Rightarrow((l1_bcialg_1 X0)\wedge(l2_struct_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v3_bcialg_1 X0)\wedge((v4_bcialg_1 X0)\wedge((v5_bcialg_1 X0)\wedge((v7_bcialg_1 X0)\wedge(l2_bcialg_1 X0))))))\Rightarrow((\neg v1_xboole_0 (k5_bcialg_1 X0))\wedge(m1_subset_1 (k5_bcialg_1 X0) (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_bcialg_1 X0)\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k1_bcialg_1 X0 X1 X2) (u1_struct_0 X0)) \quad (10)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v3_bcialg_1 X0)\wedge((v4_bcialg_1 X0)\wedge((v5_bcialg_1 X0)\wedge((v7_bcialg_1 X0)\wedge(l2_bcialg_1 X0))))))\Rightarrow(\forall X1.(m2_subset_1 X1 (u1_struct_0 X0) (k5_bcialg_1 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(k1_bcialg_1 X0 X1 X2 \in k5_bcialg_1 X0)))$$