

t30_bcialg_4
(TMTRZiPcDnkR4gzmAazXDNJ29HrsidLqeCB)

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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 $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k7_bcialg_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_bcialg_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v2_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_setwiseo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_finsop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_bcialg_4 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_bcialg_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m2_finseq_1 X1 X0) \Rightarrow \\
& \quad (\forall X2. (m2_finseq_1 X2 X0) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge \\
& \quad ((v1_funct_2 X3 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow ((v2_binop_1 X3 X0) \Rightarrow \\
& \quad (((\neg v1_setwiseo X3 X0) \wedge (\neg (r1_xxreal_0 np_1 (k3_finseq_1 X1))) \wedge \\
& \quad (r1_xxreal_0 np_1 (k3_finseq_1 X2)))) \vee (k1_finsop_1 X0 (k8_finseq_1 \\
& \quad X0 X1 X2) X3 = k5_binop_1 X0 X3 (k1_finsop_1 X0 X1 X3) (k1_finsop_1 \\
& \quad X0 X2 X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
& \quad X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\
& \quad (l1_bcialg_4 X0)))))) \Rightarrow (v1_setwiseo (u1_bcialg_4 X0) (u1_struct_0 \\
& \quad X0))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\ (l1_bcialg_4 X0)))))) \Rightarrow ((v1_funct_1 (u1_bcialg_4 X0)) \wedge ((v1_funct_2 \\ (u1_bcialg_4 X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) \\ (u1_struct_0 X0)) \wedge ((v1_binop_1 (u1_bcialg_4 X0) (u1_struct_0 \\ X0)) \wedge (v2_binop_1 (u1_bcialg_4 X0) (u1_struct_0 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 \\ (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_bcialg_4 X0) \Rightarrow ((v1_funct_1 (u1_bcialg_4 X0)) \wedge \\ ((v1_funct_2 (u1_bcialg_4 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_bcialg_4 \\ X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.(l1_bcialg_4 X0) \Rightarrow ((l2_bcialg_1 X0) \wedge (l2_struct_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_finseq_1 X1 X0) \wedge (m1_finseq_1 \\ X2 X0)) \Rightarrow (m2_finseq_1 (k8_finseq_1 X0 X1 X2) X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge (l1_bcialg_4 X0)) \wedge \\ (m1_finseq_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k7_bcialg_4 \\ X0 X1) (u1_struct_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_bcialg_4 X0)) \Rightarrow (\forall X1. \\ (m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (k7_bcialg_4 X0 X1 = k1_finsop_1 \\ (u1_struct_0 X0) X1 (u1_bcialg_4 X0))) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_bcialg_4 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k1_bcialg_4 \\ X0 X1 X2 = k5_binop_1 (u1_struct_0 X0) (u1_bcialg_4 X0) X1 X2))) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\ & (l1_bcialg_4 X0)))))) \Rightarrow (\forall X1.(m2_finseq_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m2_finseq_1 X2 (u1_struct_0 X0)) \Rightarrow (k7_bcialg_4 \\ & X0 (k8_finseq_1 (u1_struct_0 X0) X1 X2) = k1_bcialg_4 X0 (k7_bcialg_4 \\ & X0 X1) (k7_bcialg_4 X0 X2)))) \end{aligned}$$