

t29_bcialg_5

(TMPjLAWu9ASWrPpduiet6yXAbusgJ8LJpd6)

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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 $v8_bcialg_1 : \iota \Rightarrow o$ be given. Let $m1_bcialg_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_bcialg_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k6_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_bcialg_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 k1_numbers k5_numbers) \Rightarrow (\forall X3.(m2_subset_1 X3 k1_numbers \\ & k5_numbers) \Rightarrow (\forall X4.((v8_bcialg_1 X4) \wedge (m1_bcialg_5 X4 X0 \\ & X1 X2 X3)) \Rightarrow (((X0 = k2_bcialg_5 X0 X1 X2 X3) \wedge (X0 = X1)) \Rightarrow ((v8_bcialg_1 \\ & X4) \wedge (m1_bcialg_5 X4 X0 X0 X0))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \tag{2}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge (m1_subset_1 \\ & X1 k5_numbers)) \Rightarrow (k6_nat_1 X0 X0 = X0) \end{aligned} \tag{4}$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \tag{5}$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 \ X0 \\ & k5_numbers)\wedge((m1_subset_1 \ X1 \ k5_numbers)\wedge((m1_subset_1 \ X2 \ k5_numbers)\wedge \\ & (m1_subset_1 \ X3 \ k5_numbers))))\Rightarrow(\forall X4.(m1_bcialg_5 \ X4 \ X0 \\ & X1 \ X2 \ X3)\Rightarrow((\neg v2_struct_0 \ X4)\wedge((v3_bcialg_1 \ X4)\wedge((v4_bcialg_1 \\ & X4)\wedge((v5_bcialg_1 \ X4)\wedge((v7_bcialg_1 \ X4)\wedge(l2_bcialg_1 \ X4))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 \ X0 \ k5_numbers)\wedge(m1_subset_1 \\ & X1 \ k5_numbers))\Rightarrow(m2_subset_1 \ (k6_nat_1 \ X0 \ X1) \ k1_numbers \ k5_numbers) \end{aligned} \quad (8)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 \ X0 \ k1_numbers \ k5_numbers)\Rightarrow(\forall X1. \\ & (m2_subset_1 \ X1 \ k1_numbers \ k5_numbers)\Rightarrow(\forall X2.(m2_subset_1 \\ & X2 \ k1_numbers \ k5_numbers)\Rightarrow(\forall X3.(m2_subset_1 \ X3 \ k1_numbers \\ & k5_numbers)\Rightarrow(k2_bcialg_5 \ X0 \ X1 \ X2 \ X3 = k6_nat_1 \ (k6_nat_1 \ X0 \ X1) \\ & (k6_nat_1 \ X2 \ X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 \ X0 \ k1_numbers \ k5_numbers)\Rightarrow(\forall X1. \\ & (m2_subset_1 \ X1 \ k1_numbers \ k5_numbers)\Rightarrow(\forall X2.(m2_subset_1 \\ & X2 \ k1_numbers \ k5_numbers)\Rightarrow(\forall X3.(m2_subset_1 \ X3 \ k1_numbers \\ & k5_numbers)\Rightarrow(\forall X4.((\neg v2_struct_0 \ X4)\wedge((v3_bcialg_1 \ X4)\wedge \\ & ((v4_bcialg_1 \ X4)\wedge((v5_bcialg_1 \ X4)\wedge((v7_bcialg_1 \ X4)\wedge(l2_bcialg_1 \\ & X4))))))\Rightarrow((m1_bcialg_5 \ X4 \ X0 \ X1 \ X2 \ X3)\Leftrightarrow(\forall X5.(m1_subset_1 \\ & X5 \ (u1_struct_0 \ X4))\Rightarrow(\forall X6.(m1_subset_1 \ X6 \ (u1_struct_0 \\ & X4))\Rightarrow(k1_bcialg_5 \ X4 \ X5 \ X6 \ X0 \ X1 = k1_bcialg_5 \ X4 \ X6 \ X5 \ X2 \ X3))))))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 \ X0 \ k5_numbers)\wedge(m1_subset_1 \\ & X1 \ k5_numbers))\Rightarrow(k6_nat_1 \ X0 \ X1 = k6_nat_1 \ X1 \ X0) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_subset_1 \ X0 \ k1_numbers \ k5_numbers)\Rightarrow(\forall X1. \\ & (m2_subset_1 \ X1 \ k1_numbers \ k5_numbers)\Rightarrow(\forall X2.(m2_subset_1 \\ & X2 \ k1_numbers \ k5_numbers)\Rightarrow(\forall X3.(m2_subset_1 \ X3 \ k1_numbers \\ & k5_numbers)\Rightarrow(\forall X4.((v8_bcialg_1 \ X4)\wedge(m1_bcialg_5 \ X4 \ X0 \\ & X1 \ X2 \ X3))\Rightarrow(((X0 = k2_bcialg_5 \ X0 \ X1 \ X2 \ X3)\wedge((X0 = X3)\wedge(X0 = X2)))\Rightarrow \\ & ((v8_bcialg_1 \ X4)\wedge(m1_bcialg_5 \ X4 \ X0 \ X0 \ X0 \ X0)))))) \end{aligned}$$