t47_bcialg_5 (TMP-Pvs4EzMPuPrePCU9LFeQusaW1DFAkaVp)

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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 $v17\_bcialg\_1 : \iota \Rightarrow o$ be given. Let $m1\_bcialg\_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ 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 $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_bcialg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_ordinal1 : \iota$ 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 $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_bcialg\_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{1}$$

Assume the following.

$$\begin{gathered}\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_bcialg\_1\ X0) \wedge ((v4\_bcialg\_1\ X0) \wedge ((v5\_bcialg\_1\ X0) \wedge ((v7\_bcialg\_1\ X0) \wedge (l2\_bcialg\_1\ X0)))))) \Rightarrow \\ (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (k1\_bcialg\_2\ X0\ X1\ X2\ np\_\_1 = k1\_bcialg\_1\ X0\ X1\ X2)))\end{gathered} \tag{2}$$

Assume the following.

$$m1\_subset\_1\ k1\_xboole\_0\ k4\_ordinal1 \tag{3}$$

Assume the following.

$$\begin{gathered}\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_bcialg\_1\ X0) \wedge ((v4\_bcialg\_1\ X0) \wedge ((v5\_bcialg\_1\ X0) \wedge ((v7\_bcialg\_1\ X0) \wedge (l2\_bcialg\_1\ X0)))))) \Rightarrow \\ (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (k1\_bcialg\_2\ X0\ X1\ X2\ k6\_numbers = X1)))\end{gathered} \tag{4}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1)\wedge(m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_1\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{5}$$

Assume the following.

$$v1\_xboole\_0\ np\_\_0 \tag{6}$$

Assume the following.

$$k2\_xcmplx\_0\ np\_\_0\ np\_\_1 = np\_\_1 \tag{7}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{8}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k5\_numbers)\wedge(v7\_ordinal1\ X1))\Rightarrow(k2\_nat\_1\ X0\ X1 = k2\_xcmplx\_0\ X0\ X1) \tag{10}$$

Assume the following.

$$m2\_subset\_1\ k6\_numbers\ k1\_numbers\ k5\_numbers \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge((m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X3\ k5\_numbers))))\Rightarrow(m1\_subset\_1\ (k1\_bcialg\_2\ X0\ X1\ X2\ X3)\ (u1\_struct\_0\ X0)) \tag{12}$$

Assume the following.

$$\forall X0.(m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X3.(m2\_subset\_1\ X3\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X4.((\neg v2\_struct\_0\ X4)\wedge((v3\_bcialg\_1\ X4)\wedge((v4\_bcialg\_1\ X4)\wedge((v5\_bcialg\_1\ X4)\wedge((v7\_bcialg\_1\ X4)\wedge(l2\_bcialg\_1\ X4))))))\Rightarrow((m1\_bcialg\_5\ X4\ X0\ X1\ X2\ X3)\Leftrightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X4))\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X4))\Rightarrow(k1\_bcialg\_5\ X4\ X5\ X6\ X0\ X1 = k1\_bcialg\_5\ X4\ X6\ X5\ X2\ X3)))))))) \tag{13}$$

Assume the following.

$$k1\_xboole\_0 = the\ (\lambda X0 : \iota.v1\_xboole\_0\ X0) \tag{14}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\Rightarrow((v17\_bcialg\_1\ X0)\Leftrightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(k1\_bcialg\_1\ X0\ (k1\_bcialg\_1\ X0\ X1\ (k1\_bcialg\_1\ X0\ X1\ X2))\ (k1\_bcialg\_1\ X0\ X2\ X1) = k1\_bcialg\_1\ X0\ X2\ (k1\_bcialg\_1\ X0\ X2\ X1)))))) \tag{15}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m2\_subset\_1\ X3\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X4.(m2\_subset\_1\ X4\ k1\_numbers\ k5\_numbers)\Rightarrow(k1\_bcialg\_5\ X0\ X1\ X2\ X3\ X4 = k1\_bcialg\_2\ X0\ (k1\_bcialg\_2\ X0\ X1\ (k1\_bcialg\_1\ X0\ X1\ X2)\ (k2\_nat\_1\ X3\ np\_\_1))\ (k1\_bcialg\_1\ X0\ X2\ X1)\ X4))))) \tag{16}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \tag{17}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge((v17\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0)))))))\Rightarrow(m1\_bcialg\_5\ X0\ k6\_numbers\ np\_\_1\ k6\_numbers\ k6\_numbers))$$