t31_bcialg_2 (TMPhTbY-dRP6ztiWtV3sAvhJxJ3ZB5VeCTBT)

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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 $v1\_bcialg\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_bcialg\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_bcialg\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ 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 $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ 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 $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $l1\_bcialg\_1 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_bcialg\_1\ X0) \wedge ((v4\_bcialg\_1\ X0) \wedge ((v5\_bcialg\_1\ X0) \wedge ((v7\_bcialg\_1\ X0) \wedge (l2\_bcialg\_1\ X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (k1\_bcialg\_2\ X0\ X1\ X2\ np\_\_1 = k1\_bcialg\_1\ X0\ X1\ X2))) \tag{1}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow ((\neg r1\_xxreal\_0\ np\_\_1\ X0) \Rightarrow (X0 = k6\_numbers)) \tag{2}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1) \wedge (m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers)) \wedge ((m1\_subset\_1\ np\_\_1\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{3}$$

Assume the following.

$$\neg v1\_xboole\_0\ np\_\_1 \tag{4}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{5}$$

Assume the following.

$$\forall X0.(l2\_bcialg\_1\ X0)\Rightarrow((l1\_bcialg\_1\ X0)\wedge(l2\_struct\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(m1\_subset\_1\ (k4\_struct\_0\ X0)\ (u1\_struct\_0\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v5\_bcialg\_2\ X1\ X0)\Rightarrow(\forall X2.((\neg v1\_xboole\_0\ X2)\wedge(m1\_subset\_1\ X2\ k5\_numbers))\Rightarrow((X2 = k2\_bcialg\_2\ X0\ X1)\Leftrightarrow((k1\_bcialg\_2\ X0\ (k4\_struct\_0\ X0)\ X1\ X2 = k4\_struct\_0\ X0)\wedge(\forall X3.(m1\_subset\_1\ X3\ k5\_numbers)\Rightarrow((k1\_bcialg\_2\ X0\ (k4\_struct\_0\ X0)\ X1\ X3 = k4\_struct\_0\ X0)\Rightarrow((X3 = k6\_numbers)\vee(r1\_xxreal\_0\ X2\ X3)))))))))) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v5\_bcialg\_2\ X1\ X0)\Leftrightarrow(\exists X2.((\neg v1\_xboole\_0\ X2)\wedge(m1\_subset\_1\ X2\ k5\_numbers))\wedge(k1\_bcialg\_2\ X0\ (k4\_struct\_0\ X0)\ X1\ X2 = k4\_struct\_0\ X0)))) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v1\_bcialg\_2\ X1\ X0)\Leftrightarrow(r1\_bcialg\_1\ X0\ (k4\_struct\_0\ X0)\ X1))) \tag{10}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_bcialg\_1\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow((r1\_bcialg\_1\ X0\ X1\ X2)\Leftrightarrow(k1\_bcialg\_1\ X0\ X1\ X2 = k4\_struct\_0\ X0)))) \tag{11}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \tag{12}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(((v1\_bcialg\_2\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)))\Leftrightarrow((v5\_bcialg\_2\ X1\ X0)\wedge(k2\_bcialg\_2\ X0\ X1 = np\_\_1))))$$