t21_bcialg_4 (TMdXKFmW-bRDM3exJjYv8ek27QTkwM65hkup)

October 27, 2020

Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ 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 $v2\_bcialg\_4 : \iota \Rightarrow o$ be given. Let $l1\_bcialg\_4 : \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k6\_bcialg\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $k1\_bcialg\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v3\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k5\_bcialg\_4 : \iota \Rightarrow \iota$ 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 $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2)) \wedge (v1\_xboole\_0\ X2)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \tag{2}$$

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.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \tag{4}$$

Assume the following.

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

Assume the following.

$$(\neg v1\_xboole\_0\ k4\_ordinal1)\wedge(v3\_ordinal1\ k4\_ordinal1) \tag{6}$$

Assume the following.

$$m1\_subset\_1\ k5\_numbers\ (k1\_zfmisc\_1\ k1\_numbers) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge((v2\_bcialg\_4\ X0)\wedge(l1\_bcialg\_4\ X0)))))))\Rightarrow((v1\_funct\_1\ (k5\_bcialg\_4\ X0))\wedge((v1\_funct\_2\ (k5\_bcialg\_4\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ k5\_numbers)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (k5\_bcialg\_4\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ k5\_numbers)\ (u1\_struct\_0\ X0))))))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k5\_numbers)\wedge(v7\_ordinal1\ X1))\Rightarrow(m2\_subset\_1\ (k2\_nat\_1\ X0\ X1)\ k1\_numbers\ k5\_numbers) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge((v2\_bcialg\_4\ X0)\wedge(l1\_bcialg\_4\ X0)))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ k5\_numbers)\Rightarrow(k6\_bcialg\_4\ X0\ X1\ X2 = k2\_binop\_1\ (u1\_struct\_0\ X0)\ k5\_numbers\ (u1\_struct\_0\ X0)\ (k5\_bcialg\_4\ X0)\ X1\ X2))) \tag{10}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge((v2\_bcialg\_4\ X0)\wedge(l1\_bcialg\_4\ X0)))))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ k5\_numbers)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ k5\_numbers)\ (u1\_struct\_0\ X0))))))\Rightarrow((X1 = k5\_bcialg\_4\ X0)\Leftrightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow((k2\_binop\_1\ (u1\_struct\_0\ X0)\ k5\_numbers\ (u1\_struct\_0\ X0)\ X1\ X2\ k6\_numbers = k4\_struct\_0\ X0)\wedge(\forall X3.(m1\_subset\_1\ X3\ k5\_numbers)\Rightarrow(k2\_binop\_1\ (u1\_struct\_0\ X0)\ k5\_numbers\ (u1\_struct\_0\ X0)\ X1\ X2\ (k2\_nat\_1\ X3\ np\_\_1) = k1\_bcialg\_4\ X0\ (k2\_binop\_1\ (u1\_struct\_0\ X0)\ k5\_numbers\ (u1\_struct\_0\ X0)\ X1\ X2\ X3)\ X2)))))) \tag{11}$$

Assume the following.

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

Theorem 1

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v3\_bcialg\_1\ X1) \wedge ((v4\_bcialg\_1\ X1) \wedge ((v5\_bcialg\_1\ X1) \wedge ((v7\_bcialg\_1\ X1) \wedge ((v2\_bcialg\_4\ X1) \wedge (l1\_bcialg\_4\ X1)))))))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1)) \Rightarrow (k6\_bcialg\_4\ X1\ X2\ (k2\_nat\_1\ X0\ np\_\_1) = k1\_bcialg\_4\ X1\ (k6\_bcialg\_4\ X1\ X2\ X0)\ X2)))$$