t7_bhsp_6 (TMXd-VhD7LMgo8dHcNkLwyCj8SFMeQPUoCwg)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v2\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v5\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v6\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v7\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v8\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v2\_bhsp\_1 : \iota \Rightarrow o$ be given. Let $l1\_bhsp\_1 : \iota \Rightarrow o$ be given. Let $v1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_setwiseo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v3\_bhsp\_6 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k1\_numbers : \iota$ be given. Let $v2\_hahnban : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_hahnban : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_bhsp\_6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_bhsp\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k18\_complex1 : \iota \Rightarrow \iota$ be given. Let $k10\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_bhsp\_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k33\_binop\_2 : \iota$ be given. Let $k5\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_bhsp\_6 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_bhsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the

following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(((v1\_binop\_1\ (u1\_algstr\_0\ X0)\ (u1\_struct\_0\ X0))\wedge((v2\_binop\_1\ (u1\_algstr\_0\ X0)\ (u1\_struct\_0\ X0))\wedge(v1\_setwiseo\ (u1\_algstr\_0\ X0)\ (u1\_struct\_0\ X0))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(\neg(v3\_bhsp\_6\ X1\ X0)\wedge(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\exists X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (u1\_struct\_0\ X0)\ k1\_numbers)\wedge((v2\_hahnban\ X3\ X0)\wedge((v3\_hahnban\ X3\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ k1\_numbers)))))))\wedge((v2\_bhsp\_6\ X3\ X0)\wedge(\exists X4.(m1\_subset\_1\ X4\ k1\_numbers)\wedge((\neg r1\_xxreal\_0\ X4\ k6\_numbers)\wedge(\forall X5.((v1\_finset\_1\ X5)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(\neg(\neg v1\_xboole\_0\ X5)\wedge((r1\_tarski\ X5\ X1)\wedge(\forall X6.((v1\_finset\_1\ X6)\wedge(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(\neg(r1\_tarski\ X5\ X6)\wedge((r1\_tarski\ X6\ X1)\wedge(r1\_xxreal\_0\ X4\ (k18\_complex1\ (k10\_binop\_2\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ k1\_numbers\ X3\ X2)\ (k5\_bhsp\_5\ k1\_numbers\ (u1\_struct\_0\ X0)\ k33\_binop\_2\ X6\ X3))))))))))))))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge(m1\_subset\_1\ X3\ X0)))\Rightarrow(m1\_subset\_1\ (k3\_funct\_2\ X0\ X1\ X2\ X3)\ X1) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ k1\_numbers)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ k1\_numbers)))))\Rightarrow((r1\_bhsp\_6\ X0\ X1\ X2)\Leftrightarrow(\exists X3.(m1\_subset\_1\ X3\ k1\_numbers)\wedge(\forall X4.(m1\_subset\_1\ X4\ k1\_numbers)\Rightarrow(\neg(\neg r1\_xxreal\_0\ X4\ k6\_numbers)\wedge(\forall X5.((v1\_finset\_1\ X5)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(\neg(\neg v1\_xboole\_0\ X5)\wedge((r1\_tarski\ X5\ X1)\wedge(\forall X6.((v1\_finset\_1\ X6)\wedge(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(\neg(r1\_tarski\ X5\ X6)\wedge((r1\_tarski\ X6\ X1)\wedge(r1\_xxreal\_0\ X4\ (k18\_complex1\ (k10\_binop\_2\ X3\ (k5\_bhsp\_5\ k1\_numbers\ (u1\_struct\_0\ X0)\ k33\_binop\_2\ X6\ X2)))))))))))))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((v3\_bhsp\_6\ X1\ X0)\Leftrightarrow(\exists X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\wedge(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (u1\_struct\_0\ X0)\ k1\_numbers)\wedge((v2\_hahnban\ X3\ X0)\wedge((v3\_hahnban\ X3\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ k1\_numbers)))))))\Rightarrow((v2\_bhsp\_6\ X3\ X0)\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ k1\_numbers)\Rightarrow(\neg(\neg r1\_xxreal\_0\ X4\ k6\_numbers)\wedge(\forall X5.((v1\_finset\_1\ X5)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(\neg(\neg v1\_xboole\_0\ X5)\wedge((r1\_tarski\ X5\ X1)\wedge(\forall X6.((v1\_finset\_1\ X6)\wedge(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(\neg(r1\_tarski\ X5\ X6)\wedge((r1\_tarski\ X6\ X1)\wedge(r1\_xxreal\_0\ X4\ (k18\_complex1\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ k1\_numbers\ X3\ (k5\_algstr\_0\ X0\ X2\ (k1\_bhsp\_6\ X0\ X6))))))))))))))))))))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (u1\_struct\_0\ X0)\ k1\_numbers)\wedge((v2\_hahnban\ X1\ X0)\wedge((v3\_hahnban\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ k1\_numbers)))))))\Rightarrow((v2\_bhsp\_6\ X1\ X0)\Leftrightarrow(\exists X2.(m1\_subset\_1\ X2\ k1\_numbers)\wedge((\neg r1\_xxreal\_0\ X2\ k6\_numbers)\wedge(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(r1\_xxreal\_0\ (k18\_complex1\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ k1\_numbers\ X1\ X3))\ (k11\_binop\_2\ X2\ (k3\_bhsp\_1\ X0\ X3))))))))) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{6}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(((v1\_binop\_1\ (u1\_algstr\_0\ X0)\ (u1\_struct\_0\ X0))\wedge((v2\_binop\_1\ (u1\_algstr\_0\ X0)\ (u1\_struct\_0\ X0))\wedge(v1\_setwiseo\ (u1\_algstr\_0\ X0)\ (u1\_struct\_0\ X0))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((v3\_bhsp\_6\ X1\ X0)\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ k1\_numbers)\wedge((v2\_hahnban\ X2\ X0)\wedge((v3\_hahnban\ X2\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ k1\_numbers))))))))\Rightarrow((v2\_bhsp\_6\ X2\ X0)\Rightarrow(r1\_bhsp\_6\ X0\ X1\ X2))))))$$