t23_bhsp_4 (TMJF1oA45jTRXw7KRXgVrUQ9RBCoMg2ue1J)

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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 $v3\_bhsp\_3 : \iota \Rightarrow o$ be given. Let $l1\_bhsp\_1 : \iota \Rightarrow o$ 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 $k5\_numbers : \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_bhsp\_4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_bhsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_bhsp\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_normsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_bhsp\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge((v3\_bhsp\_3\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow((v1\_bhsp\_4\ X1\ X0)\Leftrightarrow(\forall X2.(m1\_subset\_1\ X2\ k1\_numbers)\Rightarrow(\neg(\neg r1\_xxreal\_0\ X2\ k6\_numbers)\wedge(\forall X3.(m2\_subset\_1\ X3\ k1\_numbers\ k5\_numbers)\Rightarrow(\exists X4.(m2\_subset\_1\ X4\ k1\_numbers\ k5\_numbers)\wedge(\exists X5.(m2\_subset\_1\ X5\ k1\_numbers\ k5\_numbers)\wedge((r1\_xxreal\_0\ X3\ X4)\wedge((r1\_xxreal\_0\ X3\ X5)\wedge(r1\_xxreal\_0\ X2\ (k3\_bhsp\_1\ X0\ (k5\_algstr\_0\ X0\ (k1\_normsp\_1\ X0\ (k1\_bhsp\_4\ X0\ X1)\ X4)\ (k1\_normsp\_1\ X0\ (k1\_bhsp\_4\ X0\ X1)\ X5)))))))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ k1\_numbers\ k5\_numbers)\Rightarrow(k3\_bhsp\_4\ X0\ X1\ X2 = k1\_normsp\_1\ X0\ (k1\_bhsp\_4\ X0\ X1)\ X2))) \tag{2}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v2\_bhsp\_1\ X0)\wedge((v3\_bhsp\_3\ X0)\wedge(l1\_bhsp\_1\ X0))))))))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow((v1\_bhsp\_4\ X1\ X0)\Leftrightarrow(\forall X2.(m1\_subset\_1\ X2\ k1\_numbers)\Rightarrow(\neg(\neg r1\_xxreal\_0\ X2\ k6\_numbers)\wedge(\forall X3.(m2\_subset\_1\ X3\ k1\_numbers\ k5\_numbers)\Rightarrow(\exists X4.(m2\_subset\_1\ X4\ k1\_numbers\ k5\_numbers)\wedge(\exists X5.(m2\_subset\_1\ X5\ k1\_numbers\ k5\_numbers)\wedge((r1\_xxreal\_0\ X3\ X4)\wedge((r1\_xxreal\_0\ X3\ X5)\wedge(r1\_xxreal\_0\ X2\ (k3\_bhsp\_1\ X0\ (k5\_algstr\_0\ X0\ (k3\_bhsp\_4\ X0\ X1\ X4)\ (k3\_bhsp\_4\ X0\ X1\ X5))))))))))))$$