t5_ndiff_5 (TMbY4qoB6sm9pPvm4VNDmWcwavcFiXPBC75)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v7\_struct\_0 : \iota \Rightarrow o$ 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 $v3\_normsp\_0 : \iota \Rightarrow o$ be given. Let $v4\_normsp\_0 : \iota \Rightarrow o$ be given. Let $v2\_normsp\_1 : \iota \Rightarrow o$ be given. Let $l1\_normsp\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_ndiff\_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_numbers : \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v2\_ndiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_ndiff\_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v13\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_lopban\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_lopban\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_vfunct\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_vfunct\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v7\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge ((v3\_normsp\_0\ X0) \wedge ((v4\_normsp\_0\ X0) \wedge ((v2\_normsp\_1\ X0) \wedge (l1\_normsp\_1\ X0))))))))))))) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge ((v1\_ndiff\_3\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_ndiff\_3\ X2\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0)))))) \Rightarrow (((v1\_funct\_1\ (k6\_vfunct\_1\ k1\_numbers\ X0\ X1\ X2)) \wedge ((v1\_ndiff\_3\ (k6\_vfunct\_1\ k1\_numbers\ X0\ X1\ X2)\ X0) \wedge (m1\_subset\_1\ (k6\_vfunct\_1\ k1\_numbers\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0)))))) \wedge ((v1\_funct\_1\ (k2\_vfunct\_1\ k1\_numbers\ X0\ X1\ X2)) \wedge ((v1\_ndiff\_3\ (k2\_vfunct\_1\ k1\_numbers\ X0\ X1\ X2)\ X0) \wedge (m1\_subset\_1\ (k2\_vfunct\_1\ k1\_numbers\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0))))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v7\_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((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_normsp\_1\ X0)\wedge(l1\_normsp\_1\ X0))))))))))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((\neg v7\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v5\_rlvect\_1\ X1)\wedge((v6\_rlvect\_1\ X1)\wedge((v7\_rlvect\_1\ X1)\wedge((v8\_rlvect\_1\ X1)\wedge((v3\_normsp\_0\ X1)\wedge((v4\_normsp\_0\ X1)\wedge((v2\_normsp\_1\ X1)\wedge(l1\_normsp\_1\ X1))))))))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_ndiff\_3\ X2\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow((k7\_partfun1\ (u1\_struct\_0\ X0)\ X2\ k6\_numbers = k4\_struct\_0\ X0)\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v2\_ndiff\_1\ X3\ X0\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow((k7\_partfun1\ (u1\_struct\_0\ X1)\ X3\ (k4\_struct\_0\ X0) = k4\_struct\_0\ X1)\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ k1\_numbers\ (u1\_struct\_0\ X0))\wedge((v2\_ndiff\_3\ X4\ X0)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow((v1\_funct\_1\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ (k6\_vfunct\_1\ k1\_numbers\ X0\ X4\ X2)\ X3))\wedge((v1\_ndiff\_3\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ (k6\_vfunct\_1\ k1\_numbers\ X0\ X4\ X2)\ X3)\ X1)\wedge(m1\_subset\_1\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ (k6\_vfunct\_1\ k1\_numbers\ X0\ X4\ X2)\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X1)))))))))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v7\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_normsp\_1\ X0)\wedge(l1\_normsp\_1\ X0))))))))))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((\neg v7\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v5\_rlvect\_1\ X1)\wedge((v6\_rlvect\_1\ X1)\wedge((v7\_rlvect\_1\ X1)\wedge((v8\_rlvect\_1\ X1)\wedge((v3\_normsp\_0\ X1)\wedge((v4\_normsp\_0\ X1)\wedge((v2\_normsp\_1\ X1)\wedge(l1\_normsp\_1\ X1))))))))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_ndiff\_3\ X2\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge((v13\_vectsp\_1\ X3\ X0\ X1)\wedge((v1\_lopban\_1\ X3\ X0\ X1)\wedge((v2\_lopban\_1\ X3\ X0\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))))\Rightarrow((v1\_funct\_1\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X3))\wedge((v1\_ndiff\_3\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X3)\ X1)\wedge(m1\_subset\_1\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X1))))))))) \tag{3}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v7\_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((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_normsp\_1\ X0)\wedge(l1\_normsp\_1\ X0))))))))))))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((\neg v7\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v5\_rlvect\_1\ X1)\wedge((v6\_rlvect\_1\ X1)\wedge((v7\_rlvect\_1\ X1)\wedge((v8\_rlvect\_1\ X1)\wedge((v3\_normsp\_0\ X1)\wedge((v4\_normsp\_0\ X1)\wedge((v2\_normsp\_1\ X1)\wedge(l1\_normsp\_1\ X1))))))))))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_ndiff\_3\ X2\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow((k7\_partfun1\ (u1\_struct\_0\ X0)\ X2\ k6\_numbers = k4\_struct\_0\ X0)\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v2\_ndiff\_1\ X3\ X0\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow((k7\_partfun1\ (u1\_struct\_0\ X1)\ X3\ (k4\_struct\_0\ X0) = k4\_struct\_0\ X1)\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ k1\_numbers\ (u1\_struct\_0\ X0))\wedge((v2\_ndiff\_3\ X4\ X0)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0))))))))\Rightarrow(\forall X5.((v1\_funct\_1\ X5)\wedge((v1\_funct\_2\ X5\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge((v13\_vectsp\_1\ X5\ X0\ X1)\wedge((v1\_lopban\_1\ X5\ X0\ X1)\wedge((v2\_lopban\_1\ X5\ X0\ X1)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))))))\Rightarrow((v1\_funct\_1\ (k6\_vfunct\_1\ k1\_numbers\ X1\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X5)\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ (k6\_vfunct\_1\ k1\_numbers\ X0\ X4\ X2)\ X3)))\wedge((v1\_ndiff\_3\ (k6\_vfunct\_1\ k1\_numbers\ X1\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X5)\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ (k6\_vfunct\_1\ k1\_numbers\ X0\ X4\ X2)\ X3))\ X1)\wedge(m1\_subset\_1\ (k6\_vfunct\_1\ k1\_numbers\ X1\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X5)\ (k1\_partfun1\ k1\_numbers\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ (k6\_vfunct\_1\ k1\_numbers\ X0\ X4\ X2)\ X3))\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X1))))))))))))$$