t40_vfunct_2 (TMdyQ48tCM78MykGwD7Wwj2dDek5oaD4Mfo)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. 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 $v3\_normsp\_0 : \iota \Rightarrow o$ be given. Let $v4\_normsp\_0 : \iota \Rightarrow o$ be given. Let $v2\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v5\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v8\_clvect\_1 : \iota \Rightarrow o$ be given. Let $l2\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ 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 $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_vfunct\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_normsp\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_normsp\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_normsp\_0 : \iota \Rightarrow o$ be given. Let $k2\_normsp\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $l2\_normsp\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_clvect\_1 : \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0) \wedge (((\neg v2\_struct\_0\ X1) \wedge (l1\_normsp\_0\ X1)) \wedge ((v1\_funct\_1\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (u1\_struct\_0\ X1))))))) \Rightarrow (k3\_normsp\_0\ X0\ X1\ X2 = k2\_normsp\_0\ X1\ X2) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v4\_relat\_1\ X1\ X0)) \Rightarrow (k1\_relset\_1\ X0\ X1 = k9\_xtuple\_0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.(l2\_normsp\_0\ X0)\Rightarrow((l1\_normsp\_0\ X0)\wedge(l2\_struct\_0\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l2\_clvect\_1\ X0)\Rightarrow((l1\_clvect\_1\ X0)\wedge(l2\_normsp\_0\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_clvect\_1\ X0)\Rightarrow(l2\_algstr\_0\ X0) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge(((\neg v2\_struct\_0\ X1)\wedge(l2\_algstr\_0\ X1))\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (u1\_struct\_0\ X1))))))\Rightarrow((v1\_funct\_1\ (k5\_vfunct\_1\ X0\ X1\ X2))\wedge(m1\_subset\_1\ (k5\_vfunct\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (u1\_struct\_0\ X1))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge(((\neg v2\_struct\_0\ X1)\wedge(l1\_normsp\_0\ X1))\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (u1\_struct\_0\ X1))))))\Rightarrow((v1\_funct\_1\ (k3\_normsp\_0\ X0\ X1\ X2))\wedge(m1\_subset\_1\ (k3\_normsp\_0\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers)))) \tag{8}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l2\_algstr\_0\ X1))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (u1\_struct\_0\ X1)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (u1\_struct\_0\ X1)))))\Rightarrow((X3 = k5\_vfunct\_1\ X0\ X1\ X2)\Leftrightarrow((k1\_relset\_1\ X0\ X3 = k1\_relset\_1\ X0\ X2)\wedge(\forall X4.(m1\_subset\_1\ X4\ X0)\Rightarrow((X4 \in k1\_relset\_1\ X0\ X3)\Rightarrow(k7\_partfun1\ (u1\_struct\_0\ X1)\ X3\ X4 = k4\_algstr\_0\ X1\ (k7\_partfun1\ (u1\_struct\_0\ X1)\ X2\ X4)))))))) \tag{9}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_normsp\_0\ X1))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (u1\_struct\_0\ X1)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))\Rightarrow((X3 = k3\_normsp\_0\ X0\ X1\ X2)\Leftrightarrow((k9\_xtuple\_0\ X3 = k9\_xtuple\_0\ X2)\wedge(\forall X4.(m1\_subset\_1\ X4\ X0)\Rightarrow((X4 \in k9\_xtuple\_0\ X3)\Rightarrow(k1\_funct\_1\ X3\ X4 = k1\_normsp\_0\ X1\ (k7\_partfun1\ (u1\_struct\_0\ X1)\ X2\ X4))))))))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v4\_relat\_1\ X1\ X0))\Rightarrow(\\(v1\_partfun1\ X1\ X0)\Leftrightarrow(k1\_relset\_1\ X0\ X1 = X0)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\\(k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1)) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\\(k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{13}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge\\((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\\X1)\wedge((v3\_normsp\_0\ X1)\wedge((v4\_normsp\_0\ X1)\wedge((v2\_clvect\_1\ X1)\wedge\\((v3\_clvect\_1\ X1)\wedge((v4\_clvect\_1\ X1)\wedge((v5\_clvect\_1\ X1)\wedge((v8\_clvect\_1\\X1)\wedge(l2\_clvect\_1\ X1))))))))))))\Rightarrow(\forall X2.((v1\_funct\_1\\X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (u1\_struct\_0\\X1)))))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow((v1\_partfun1\ X2\ X0)\Rightarrow\\((k7\_partfun1\ (u1\_struct\_0\ X1)\ (k5\_vfunct\_1\ X0\ X1\ X2)\ X3 = k4\_algstr\_0\\X1\ (k7\_partfun1\ (u1\_struct\_0\ X1)\ X2\ X3))\wedge(k1\_funct\_1\ (k3\_normsp\_0\\X0\ X1\ X2)\ X3 = k1\_normsp\_0\ X1\ (k7\_partfun1\ (u1\_struct\_0\ X1)\ X2\ X3)))))))$$