t16_fvsum_1 (TMacXhot8igcoootADESdgJWmKBG5nkV5Nj)

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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 $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $r7\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k5\_vectsp\_1 : \iota \Rightarrow \iota$ be given. Let $u1\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_algstr\_1 : \iota \Rightarrow o$ be given. Let $v1\_setwiseo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ 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 $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_finseqop : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_finseqop : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v4\_algstr\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v1\_algstr\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge (l2\_algstr\_0\ X0)))) \Rightarrow (v1\_setwiseo\ (u1\_algstr\_0\ X0)\ (u1\_struct\_0\ X0)) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))) \Rightarrow (((v1\_setwiseo\ X1\ X0) \wedge ((v2\_binop\_1\ X1\ X0) \wedge ((v1\_binop\_1\ X1\ X0) \wedge (v1\_finseqop\ X1\ X0)))) \Rightarrow (r7\_binop\_1\ X0\ (k5\_finseqop\ X0\ X1)\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v1\_algstr\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge (l2\_algstr\_0\ X0)))))) \Rightarrow (r2\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (k5\_finseqop\ (u1\_struct\_0\ X0)\ (u1\_algstr\_0\ X0))\ (k5\_vectsp\_1\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v1\_algstr\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l2\_algstr\_0\ X0)))))\Rightarrow(v1\_finseqop\ (u1\_algstr\_0\ X0)\ (u1\_struct\_0\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ X0\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))\Rightarrow((r2\_funct\_2\ X0\ X1\ X2\ X3)\Leftrightarrow(X2 = X3)) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\Rightarrow(\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge(l2\_algstr\_0\ X0)))\Rightarrow((v1\_funct\_1\ (u1\_algstr\_0\ X0))\wedge((v1\_funct\_2\ (u1\_algstr\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(v2\_binop\_1\ (u1\_algstr\_0\ X0)\ (u1\_struct\_0\ X0)))) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge(l2\_algstr\_0\ X0)))\Rightarrow((v1\_funct\_1\ (u1\_algstr\_0\ X0))\wedge((v1\_funct\_2\ (u1\_algstr\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(v1\_binop\_1\ (u1\_algstr\_0\ X0)\ (u1\_struct\_0\ X0)))) \tag{8}$$

Assume the following.

$$\forall X0.(l1\_algstr\_0\ X0)\Rightarrow((v1\_funct\_1\ (u1\_algstr\_0\ X0))\wedge((v1\_funct\_2\ (u1\_algstr\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (u1\_algstr\_0\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)))))) \tag{9}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.(l1\_algstr\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_algstr\_0\ X0))\Rightarrow((v1\_funct\_1\ (k5\_vectsp\_1\ X0))\wedge((v1\_funct\_2\ (k5\_vectsp\_1\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (k5\_vectsp\_1\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))))))) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))))\Rightarrow((v1\_funct\_1\ (k5\_finseqop\ X0\ X1))\wedge((v1\_funct\_2\ (k5\_finseqop\ X0\ X1)\ X0\ X0)\wedge(m1\_subset\_1\ (k5\_finseqop\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))))) \tag{13}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge(v4\_rlvect\_1\ X0))))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge((v1\_algstr\_1\ X0)\wedge(v4\_algstr\_1\ X0)))) \tag{14}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l2\_algstr\_0\ X0))))))\Rightarrow(r7\_binop\_1\ (u1\_struct\_0\ X0)\ (k5\_vectsp\_1\ X0)\ (u1\_algstr\_0\ X0))$$