t45_fvsum_1 (TMRp4XoGdFNvmWHXGX3sPwiEekopqRgSa1S)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ 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 $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_fvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_fvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_algstr\_1 : \iota \Rightarrow o$ be given. Let $k6\_fvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $v4\_algstr\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge (l2\_algstr\_0\ X1)))))) \Rightarrow (\forall X2.(m2\_finseq\_2\ X2\ (u1\_struct\_0\ X1)\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1))) \Rightarrow (\forall X3.(m2\_finseq\_2\ X3\ (u1\_struct\_0\ X1)\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1))) \Rightarrow (\forall X4.(m2\_finseq\_2\ X4\ (u1\_struct\_0\ X1)\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1))) \Rightarrow (k8\_fvsum\_1\ X0\ X1\ (k8\_fvsum\_1\ X0\ X1\ X2\ X3)\ X4 = k8\_fvsum\_1\ X0\ X1\ X2\ (k4\_fvsum\_1\ X0\ X1\ X3\ X4))))))) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v1\_algstr\_1\ X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge (l2\_algstr\_0\ X1)))))) \Rightarrow (\forall X2.(m2\_finseq\_2\ X2\ (u1\_struct\_0\ X1)\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1))) \Rightarrow (\forall X3.(m2\_finseq\_2\ X3\ (u1\_struct\_0\ X1)\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1))) \Rightarrow (k8\_fvsum\_1\ X0\ X1\ X2\ (k6\_fvsum\_1\ X0\ X1\ X3) = k4\_fvsum\_1\ X0\ X1\ X2\ X3)))) \tag{2}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v1\_algstr\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge(l2\_algstr\_0\ X1)))))))\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ (u1\_struct\_0\ X1)\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1)))\Rightarrow(k6\_fvsum\_1\ X0\ X1\ (k6\_fvsum\_1\ X0\ X1\ X2) = X2))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \tag{4}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X0\ k5\_numbers)\wedge(((\neg v2\_struct\_0\ X1)\wedge(l2\_algstr\_0\ X1))\wedge((m1\_subset\_1\ X2\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1)))\wedge(m1\_subset\_1\ X3\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1)))))))\Rightarrow(m2\_finseq\_2\ (k8\_fvsum\_1\ X0\ X1\ X2\ X3)\ (u1\_struct\_0\ X1)\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X0\ k5\_numbers)\wedge(((\neg v2\_struct\_0\ X1)\wedge(l2\_algstr\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1)))))\Rightarrow(m2\_finseq\_2\ (k6\_fvsum\_1\ X0\ X1\ X2)\ (u1\_struct\_0\ X1)\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(v7\_ordinal1\ X0)\Rightarrow(m1\_finseq\_2\ (k4\_finseq\_2\ X0\ X1)\ X1) \tag{8}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \tag{9}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge(v4\_rlvect\_1\ X0))))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge((v1\_algstr\_1\ X0)\wedge(v4\_algstr\_1\ X0)))) \tag{10}$$

Theorem 1

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge(l2\_algstr\_0\ X1))))))\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ (u1\_struct\_0\ X1)\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1)))\Rightarrow(\forall X3.(m2\_finseq\_2\ X3\ (u1\_struct\_0\ X1)\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1)))\Rightarrow(\forall X4.(m2\_finseq\_2\ X4\ (u1\_struct\_0\ X1)\ (k4\_finseq\_2\ X0\ (u1\_struct\_0\ X1)))\Rightarrow(k8\_fvsum\_1\ X0\ X1\ X2\ (k8\_fvsum\_1\ X0\ X1\ X3\ X4) = k4\_fvsum\_1\ X0\ X1\ (k8\_fvsum\_1\ X0\ X1\ X2\ X3)\ X4)))))$$