

## t67\_fvsum\_1

(TMaaUr8Pr8LQpxMLmswDHGxFp88SRxA35Gk)

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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  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v5\_group\_1 : \iota \Rightarrow o$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k12\_fvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_group\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_fvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xbool0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.((\neg v2\_struct\_0 \\ & X1) \wedge ((v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X1)) \Rightarrow (\forall X3.(m2\_finseq\_2 \\ & X3 (u1\_struct\_0 X1) (k4\_finseq\_2 X0 (u1\_struct\_0 X1))) \Rightarrow ((k12\_fvsum\_1 \\ & X0 X1 (k5\_finseq\_2 (u1\_struct\_0 X1) X0 X2) X3 = k10\_fvsum\_1 X0 X1 X3 \\ & X2) \wedge (k12\_fvsum\_1 X0 X1 X3 (k5\_finseq\_2 (u1\_struct\_0 X1) X0 X2) = \\ & k10\_fvsum\_1 X0 X1 X3 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.((\neg v2\_struct\_0 \\ & X1) \wedge (l3\_algstr\_0 X1)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ & X1)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X1)) \Rightarrow (k10\_fvsum\_1 \\ & X0 X1 (k5\_finseq\_2 (u1\_struct\_0 X1) X0 X3) X2 = k5\_finseq\_2 (u1\_struct\_0 \\ & X1) X0 (k6\_algstr\_0 X1 X2 X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0) \wedge ((v5\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\ & m1\_subset\_1 X2 (u1\_struct\_0 X0))) \Rightarrow (k8\_group\_1 X0 X1 X2 = k6\_algstr\_0 \\ & X0 X1 X2) \end{aligned} \tag{3}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l3\_algstr\_0 X0) \Rightarrow (l1\_struct\_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0) \wedge ((v7\_ordinal1 X1) \wedge (m1\_subset\_1 X2 X0))) \Rightarrow (m2\_finseq\_2 (k5\_finseq\_2 X0 X1 X2) X0 (k4\_finseq\_2 X1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X1)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X1) \Rightarrow (k12\_fvsun\_1 X0 X1 (k5\_finseq\_2 (u1\_struct\_0 X1) X0 X2) (k5\_finseq\_2 (u1\_struct\_0 X1) X0 X3) = k5\_finseq\_2 (u1\_struct\_0 X1) X0 (k8\_group\_1 X1 X2 X3)))))) \end{aligned}$$