

# t81\_fvsum\_1 (TMRHdGyFUrzmWT- pzD3rCUe79jYtA86NbjZx)

October 27, 2020

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  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k3\_group\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_group\_1 : \iota \Rightarrow \iota$  be given. Let  $v6\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $l4\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k4\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_struct\_0 : \iota \Rightarrow \iota$  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  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_setwiseo : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_finsop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_group\_1 : \iota \Rightarrow o$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l4\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_vectsp\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v5\_group\_1 X0) \wedge ((v6\_vectsp\_1 X0) \wedge (l4\_algstr\_0 X0)))) \Rightarrow (k4\_binop\_1 (u1\_struct\_0 X0) (u2\_algstr\_0 X0) = k5\_struct\_0 X0) \quad (1)$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (k2\_zfmisc\_1 X0 X0) X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0)))))) \Rightarrow (\forall X2. (v7\_ordinal1 X2) \Rightarrow ((v1\_setwiseo X1 X0) \Rightarrow (k1\_finsop\_1 X0 (k5\_finseq\_2 X0 X2 (k4\_binop\_1 X0 X1)) X1 = k4\_binop\_1 X0 X1)))) \quad (2)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (3)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v4\_vectsp\_1 X0) \wedge (l4\_algstr\_0 X0))) \Rightarrow (k1\_group\_1 X0 = k5\_struct\_0 X0) \quad (4)$$

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.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_group\_1 X0) \wedge (l3\_algstr\_0 X0))) \Rightarrow ((v1\_funct\_1 (u2\_algstr\_0 X0)) \wedge ((v1\_funct\_2 (u2\_algstr\_0 X0) (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge (v1\_setwiseo (u2\_algstr\_0 X0) (u1\_struct\_0 X0)))))) \quad (6)$$

Assume the following.

$$\forall X0.(l3\_algstr\_0 X0) \Rightarrow ((v1\_funct\_1 (u2\_algstr\_0 X0)) \wedge ((v1\_funct\_2 (u2\_algstr\_0 X0) (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 (u2\_algstr\_0 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0))))))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 X0 X1) \Rightarrow (m2\_finseq\_1 X2 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0) \Rightarrow ((l2\_algstr\_0 X0) \wedge (l5\_algstr\_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l5\_algstr\_0 X0) \Rightarrow ((l4\_algstr\_0 X0) \wedge (l4\_struct\_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l4\_algstr\_0 X0) \Rightarrow ((l3\_struct\_0 X0) \wedge (l3\_algstr\_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0) \Rightarrow (l1\_struct\_0 X0) \quad (12)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.(l3\_struct\_0 X0) \Rightarrow (m1\_subset\_1 (k5\_struct\_0 X0) (u1\_struct\_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0) \wedge ((v7\_ordinal1 X1) \wedge (m1\_subset\_1 X2 X0))) \Rightarrow (m2\_finseq\_2 (k5\_finseq\_2 X0 X1 X2) X0 (k4\_finseq\_2 X1 X0)) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(v7\_ordinal1 X0) \Rightarrow (m1\_finseq\_2 (k4\_finseq\_2 X0 X1) X1) \quad (16)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l3\_algstr\_0 X0)) \Rightarrow (\forall X1.(m2\_finseq\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (k3\_group\_4 X0 X1 = k1\_finsop\_1 (u1\_struct\_0 X0) X1 (u2\_algstr\_0 X0))) \quad (17)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (18)$$

Assume the following.

$$\forall X0.(l4\_algstr\_0 X0) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge (v4\_vectsp\_1 X0)) \Rightarrow ((\neg v2\_struct\_0 X0) \wedge (v1\_group\_1 X0))) \quad (19)$$

Assume the following.

$$\forall X0.(l4\_algstr\_0 X0) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge (v4\_vectsp\_1 X0)) \Rightarrow ((\neg v2\_struct\_0 X0) \wedge ((v3\_vectsp\_1 X0) \wedge (v6\_vectsp\_1 X0)))) \quad (20)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge (l6\_algstr\_0 X1)))))) \Rightarrow (k3\_group\_4 X1 (k5\_finseq\_2 (u1\_struct\_0 X1) X0 (k1\_group\_1 X1)) = k1\_group\_1 X1))$$