

t12\_finsop\_1 (TMXvup-  
Byp9R1P57McSeTTBAV5CJ7b6rEKKQ)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k1\_finsop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow ((X1 = k9\_finseq\_1 X0) \Leftrightarrow ((k3\_finseq\_1 X1 = np\_1) \wedge (k10\_xtuple\_0 X1 = k1\_tarski X0))) \quad (1)$$

Assume the following.

$$r1\_xxreal\_0 np\_1 np\_1 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (3)$$

Assume the following.

$$\forall X0. k9\_finseq\_1 X0 = k5\_finseq\_1 X0 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1\_finseq\_1 X1 X0) \wedge (m1\_finseq\_1 X2 X0)) \Rightarrow (k8\_finseq\_1 X0 X1 X2 = k7\_finseq\_1 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((m1\_subset\_1 X1 X0)\wedge(m1\_subset\_1 X2 X0)))\Rightarrow(k2\_finseq\_4 X0 X1 X2 = k10\_finseq\_1 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow(k12\_finseq\_1 X0 X1 = k5\_finseq\_1 X1) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow \\ (\forall X2.(m2\_finseq\_1 X2 X0)\Rightarrow(\forall X3.((v1\_funct\_1 X3)\wedge \\ ((v1\_funct\_2 X3 (k2\_zfmisc\_1 X0 X0) X0)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0))))\Rightarrow((r1\_xreal\_0 np\_1 \\ (k3\_finseq\_1 X2))\Rightarrow(k1\_finsop\_1 X0 (k8\_finseq\_1 X0 X2 (k12\_finseq\_1 \\ X0 X1)) X3 = k5\_binop\_1 X0 X3 (k1\_finsop\_1 X0 X2 X3) X1)))))) \quad (8) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow \\ (\forall X2.((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 (k2\_zfmisc\_1 X0 \\ X0) X0)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\ X0 X0) X0))))\Rightarrow(k1\_finsop\_1 X0 (k12\_finseq\_1 X0 X1) X2 = X1))) \quad (9) \end{aligned}$$

Assume the following.

$$\forall X0.v1\_finseq\_1 (k5\_finseq\_1 X0) \quad (10)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 (k9\_finseq\_1 X0))\wedge(v1\_funct\_1 (k9\_finseq\_1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow(m2\_finseq\_1 (k12\_finseq\_1 X0 X1) X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.k10\_finseq\_1 X0 X1 = k7\_finseq\_1 (k9\_finseq\_1 X0) (k9\_finseq\_1 X1) \quad (13)$$

### Theorem 1

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow \\ (\forall X2.(m1\_subset\_1 X2 X0)\Rightarrow(\forall X3.((v1\_funct\_1 X3)\wedge \\ ((v1\_funct\_2 X3 (k2\_zfmisc\_1 X0 X0) X0)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0))))\Rightarrow(k1\_finsop\_1 X0 (k2\_finseq\_4 \\ X0 X1 X2) X3 = k5\_binop\_1 X0 X3 X1 X2)))) \quad (14) \end{aligned}$$