

t1\_finsop\_1 (TM-  
TiQP2gvYz3LS7mMFUmYSZUcqt236KNuzH)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k8\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_finsop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_setwiseo : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (v2\_xxreal\_0 X0)) \Rightarrow (v2\_xxreal\_0 X1))) \quad (1)$$

Assume the following.

$$((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \quad (2)$$

Assume the following.

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

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (4)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((m1\_finseq\_1 \\ & X1 X0)\wedge((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 (k2\_zfmisc\_1 X0 X0) X0)\wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) \\ & X0))))))\Rightarrow(m1\_subset\_1 (k1\_finsop\_1 X0 X1 X2) X0) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 (k2\_zfmisc\_1 X0 \\ & X0) X0)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X0) X0))))\Rightarrow(((v1\_setwiseo X2 X0)\vee(r1\_xxreal\_0 np\_1 (k3\_finseq\_1 \\ & X1)))\Rightarrow(\forall X3.(m1\_subset\_1 X3 X0)\Rightarrow(((v1\_setwiseo X2 X0)\wedge \\ & (k3\_finseq\_1 X1 = k6\_numbers))\Rightarrow((X3 = k1\_finsop\_1 X0 X1 X2)\Leftrightarrow(X3 = \\ & k4\_binop\_1 X0 X2)))\wedge((\neg(v1\_setwiseo X2 X0)\wedge(k3\_finseq\_1 X1 = k6\_numbers))\Rightarrow \\ & ((X3 = k1\_finsop\_1 X0 X1 X2)\Leftrightarrow(\exists X4.((v1\_funct\_1 X4)\wedge((v1\_funct\_2 \\ & X4 k5\_numbers X0)\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ & X0))))\wedge((k8\_nat\_1 X0 X4 np\_1 = k1\_funct\_1 X1 np\_1)\wedge((\forall X5. \\ & (m1\_subset\_1 X5 k5\_numbers)\Rightarrow(\neg(k6\_numbers\neq X5)\wedge((\neg r1\_xxreal\_0 \\ & (k3\_finseq\_1 X1) X5)\wedge(k8\_nat\_1 X0 X4 (k2\_nat\_1 X5 np\_1)\neq k1\_binop\_1 \\ & X2 (k8\_nat\_1 X0 X4 X5) (k1\_funct\_1 X1 (k2\_nat\_1 X5 np\_1))))))\wedge( \\ & X3 = k8\_nat\_1 X0 X4 (k3\_finseq\_1 X1)))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(v7\_ordinal1 X0) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0)\wedge(v2\_xxreal\_0 X0))\Rightarrow((\neg v1\_xboole\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(\neg v3\_xxreal\_0 X0))) \quad (10)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(v1\_xreal\_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (12)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m2\_finseq\_1 X1 X0) \Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (k2\_zfmisc\_1 X0 \\ & X0) X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X0) X0)))))) \Rightarrow (\neg(r1\_xxreal\_0 np\_1 (k3\_finseq\_1 X1)) \wedge (\forall X3. \\ & ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 k5\_numbers X0) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \Rightarrow (\neg(k8\_nat\_1 \\ & X0 X3 np\_1 = k1\_funct\_1 X1 np\_1) \wedge ((\forall X4.(m1\_subset\_1 X4 \\ & k5\_numbers) \Rightarrow (\neg(k6\_numbers \neq X4) \wedge ((\neg r1\_xxreal\_0 (k3\_finseq\_1 \\ & X1) X4) \wedge (k8\_nat\_1 X0 X3 (k2\_nat\_1 X4 np\_1) \neq k1\_binop\_1 X2 (k8\_nat\_1 \\ & X0 X3 X4) (k1\_funct\_1 X1 (k2\_nat\_1 X4 np\_1)))))) \wedge (k1\_finsop\_1 \\ & X0 X1 X2 = k8\_nat\_1 X0 X3 (k3\_finseq\_1 X1)))))) \end{aligned}$$