

t25\_finseq\_7  
(TMJ6izCKshfuYWTX8grrqhdjyimHCpF9RVS)

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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  $k2\_finseq\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_finseq\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k5\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_relat\_1 X3) \wedge \\ & ((v1\_funct\_1 X3) \wedge (v1\_finseq\_1 X3))) \Rightarrow ((X3 = k11\_finseq\_1 X0 X1 \\ & X2) \Leftrightarrow ((k3\_finseq\_1 X3 = np\_3) \wedge ((k1\_funct\_1 X3 np\_1 = X0) \wedge ((k1\_funct\_1 \\ & X3 np\_2 = X1) \wedge (k1\_funct\_1 X3 np\_3 = X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (k11\_finseq\_1 X0 X1 X2 = k7\_finseq\_1 \\ & (k9\_finseq\_1 X0) (k10\_finseq\_1 X1 X2)) \wedge (k11\_finseq\_1 X0 X1 X2 = \\ & k7\_finseq\_1 (k10\_finseq\_1 X0 X1) (k9\_finseq\_1 X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow \\ & (\forall X2. (m1\_subset\_1 X2 X0) \Rightarrow (\forall X3. (m1\_subset\_1 X3 X0) \Rightarrow \\ & ((k7\_partfun1 X0 (k3\_finseq\_4 X0 X1 X2 X3) np\_1 = X1) \wedge ((k7\_partfun1 \\ & X0 (k3\_finseq\_4 X0 X1 X2 X3) np\_2 = X2) \wedge (k7\_partfun1 X0 (k3\_finseq\_4 \\ & X0 X1 X2 X3) np\_3 = X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 X0) \Rightarrow (\forall X3.(m1\_subset\_1 X3 X0) \Rightarrow \\ & (\forall X4.(m1\_subset\_1 X4 X0) \Rightarrow (k1\_finseq\_7 X0 (k3\_finseq\_4 \\ & X0 X1 X2 X3) np\_3 X4 = k3\_finseq\_4 X0 X1 X2 X4)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 X0) \Rightarrow (\forall X3.(m1\_subset\_1 X3 X0) \Rightarrow \\ & (\forall X4.(m1\_subset\_1 X4 X0) \Rightarrow (k1\_finseq\_7 X0 (k3\_finseq\_4 \\ & X0 X1 X2 X3) np\_1 X4 = k3\_finseq\_4 X0 X4 X2 X3)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_3) \wedge (m2\_subset\_1 np\_3 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_3 k5\_numbers) \wedge (m1\_subset\_1 np\_3 k1\_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$r1\_xxreal\_0 np\_3 np\_3 \quad (8)$$

Assume the following.

$$r1\_xxreal\_0 np\_1 np\_3 \quad (9)$$

Assume the following.

$$r1\_xxreal\_0 np\_1 np\_1 \quad (10)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0) \wedge \\ & ((m1\_subset\_1 X1 X0) \wedge ((m1\_subset\_1 X2 X0) \wedge (m1\_subset\_1 X3 X0)))) \Rightarrow \\ & (k3\_finseq\_4 X0 X1 X2 X3 = k11\_finseq\_1 X1 X2 X3) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(v1\_relat\_1 (k11\_finseq\_1 X0 \\ & X1 X2)) \wedge (v1\_funct\_1 (k11\_finseq\_1 X0 X1 X2)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.v1\_finseq\_1 (k11\_finseq\_1 X0 \\ & X1 X2) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & ((m1\_subset\_1 X1 X0)\wedge((m1\_subset\_1 X2 X0)\wedge(m1\_subset\_1 X3 X0))))\Rightarrow \\ & (m2\_finseq\_1 (k3\_finseq\_4 X0 X1 X2 X3) X0) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.k10\_finseq\_1 X0 X1 = k7\_finseq\_1 (k9\_finseq\_1 X0) (k9\_finseq\_1 X1) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow \\ & (\forall X2.(v7\_ordinal1 X2)\Rightarrow(\forall X3.(v7\_ordinal1 X3)\Rightarrow( \\ & (((r1\_xxreal\_0 np\_1 X2)\wedge((r1\_xxreal\_0 X2 (k3\_finseq\_1 X1))\wedge \\ & (r1\_xxreal\_0 np\_1 X3)\wedge(r1\_xxreal\_0 X3 (k3\_finseq\_1 X1))))))\Rightarrow \\ & (k2\_finseq\_7 X0 X1 X2 X3 = k1\_finseq\_7 X0 (k1\_finseq\_7 X0 X1 X2 (k7\_partfun1 \\ & X0 X1 X3)) X3 (k7\_partfun1 X0 X1 X2))\wedge((\neg(r1\_xxreal\_0 np\_1 X2)\wedge \\ & ((r1\_xxreal\_0 X2 (k3\_finseq\_1 X1))\wedge((r1\_xxreal\_0 np\_1 X3)\wedge( \\ & r1\_xxreal\_0 X3 (k3\_finseq\_1 X1))))))\Rightarrow(k2\_finseq\_7 X0 X1 X2 X3 = X1)))))) \end{aligned} \quad (17)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 X0)\Rightarrow(\forall X3.(m1\_subset\_1 X3 X0)\Rightarrow \\ & (k2\_finseq\_7 X0 (k3\_finseq\_4 X0 X1 X2 X3) np\_1 np\_3 = k3\_finseq\_4 \\ & X0 X3 X2 X1)))) \end{aligned}$$