

# t116\_finseq\_6 (TMJAYuK- MqSpDvNuJ9L52k2wHT9jgTo6822Q)

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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  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k17\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_rfinseq : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  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  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_rfinseq : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k3\_finseq\_5 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow (k2\_rfinseq X0 k6\_numbers X1 = X1) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_xreal\_0 X0) \Rightarrow (\forall X1. (v1\_xreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X1 X0) \Rightarrow (k2\_xcmplx\_0 (k1\_xreal\_0 X0 X1) X1 = X0))) \quad (2)$$

Assume the following.

$$\forall X0. (v1\_xreal\_0 X0) \Rightarrow (k1\_xreal\_0 X0 X0 = k6\_numbers) \quad (3)$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (4)$$

Assume the following.

$$((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Leftrightarrow(m1\_finseq\_1 X1 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0)\wedge(v7\_ordinal1 X1))\Rightarrow(k7\_nat\_d X0 X1 = k1\_xreal\_0 X0 X1) \quad (7)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (8)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (9)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ &((m1\_finseq\_1 X1 X0)\wedge((v7\_ordinal1 X2)\wedge(v7\_ordinal1 X3))))\Rightarrow \\ &(k3\_finseq\_6 X0 X1 X2 X3 = k2\_finseq\_6 X1 X2 X3) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X1)\wedge(m1\_finseq\_1 X2 X0))\Rightarrow(k2\_rfinseq X0 X1 X2 = k1\_rfinseq X1 X2) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_numbers)\wedge(v7\_ordinal1 X1))\Rightarrow(k2\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X1)\wedge(m1\_finseq\_1 X2 X0))\Rightarrow(k17\_finseq\_1 X0 X1 X2 = k16\_finseq\_1 X1 X2) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0)\wedge(v7\_ordinal1 X1))\Rightarrow(m1\_subset\_1 (k7\_nat\_d X0 X1) k5\_numbers) \quad (15)$$

Assume the following.

$$\begin{aligned} &\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow \\ &(\forall X1.(v7\_ordinal1 X1)\Rightarrow(\forall X2.(v7\_ordinal1 X2)\Rightarrow( \\ &((r1\_xxreal\_0 X1 X2)\Rightarrow(k2\_finseq\_6 X0 X1 X2 = k16\_finseq\_1 (k2\_nat\_1 \\ &(k7\_nat\_d X2 X1) np\_1) (k1\_rfinseq (k7\_nat\_d X1 np\_1) X0)))\wedge( \\ &(\neg r1\_xxreal\_0 X1 X2)\Rightarrow(k2\_finseq\_6 X0 X1 X2 = k3\_finseq\_5 (k16\_finseq\_1 \\ &(k2\_nat\_1 (k7\_nat\_d X1 X2) np\_1) (k1\_rfinseq (k7\_nat\_d X2 np\_1) \\ &X0)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.(m1\_subset.1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (17)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (18)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m2\_finseq.1 X1 X0) \Rightarrow \\ & (\forall X2.(v7\_ordinal1 X2) \Rightarrow ((r1\_xxreal\_0 np\_1 X2) \Rightarrow (k3\_finseq.6 \\ & X0 X1 np\_1 X2 = k17\_finseq.1 X0 X2 X1)))) \end{aligned}$$