

# t2\_genealg1

## (TMPQwtFSBYNe8zodvtgrPxxwVur56nze5iFm)

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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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k17\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  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  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k16\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. & ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (\forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow \\ & (\forall X2. (v7\_ordinal1 X2) \Rightarrow (k5\_relat\_1 (k7\_finseq\_1 X0 X1) (k2\_finseq\_1 (k2\_nat\_1 (k3\_finseq\_1 X0) X2)) = k7\_finseq\_1 X0 (k5\_relat\_1 X1 (k2\_finseq\_1 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_finseq\_1 X1 X0)\wedge(m1\_finseq\_1 X2 X0))\Rightarrow(k8\_finseq\_1 X0 X1 X2 = k7\_finseq\_1 X1 X2) \quad (6)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X1)\wedge(m1\_finseq\_1 X2 X0))\Rightarrow(k17\_finseq\_1 X0 X1 X2 = k16\_finseq\_1 X1 X2) \quad (8)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_finseq\_1 X1 X0)\wedge(m1\_finseq\_1 X2 X0))\Rightarrow(m2\_finseq\_1 (k8\_finseq\_1 X0 X1 X2) X0) \quad (11)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (12)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow(m2\_subset\_1 (k3\_finseq\_1 X0) k1\_numbers k5\_numbers) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_numbers)\wedge(v7\_ordinal1 X1))\Rightarrow(m2\_subset\_1 (k2\_nat\_1 X0 X1) k1\_numbers k5\_numbers) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X1)\wedge(m1\_finseq\_1 X2 X0))\Rightarrow(m2\_finseq\_1 (k17\_finseq\_1 X0 X1 X2) X0) \quad (15)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow(k16\_finseq\_1 X0 X1 = k5\_relat\_1 X1 (k2\_finseq\_1 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1)\Rightarrow(v7\_ordinal1 X0) \quad (17)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m2\_finseq\_1 X1 X0) \Rightarrow \\ & (\forall X2.(m2\_finseq\_1 X2 X0) \Rightarrow (\forall X3.(m1\_subset\_1 X3 k5\_numbers) \Rightarrow \\ & (k17\_finseq\_1 X0 (k2\_nat\_1 (k3\_finseq\_1 X1) X3) (k8\_finseq\_1 X0 \\ & X1 X2) = k8\_finseq\_1 X0 X1 (k17\_finseq\_1 X0 X3 X2)))))) \end{aligned}$$