

l16\_uniform1 (TM-  
bRHD4abiqA39XabaASZ8bhm1dW7WANNng)

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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  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  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.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (\forall X1. (v7\_ordinal1 X1) \Rightarrow ((X1 \in k1\_relset\_1 k5\_numbers X0) \Leftrightarrow ((r1\_xxreal\_0 np\_1 X1) \wedge (r1\_xxreal\_0 X1 (k3\_finseq\_1 X0)))) \quad (2)$$

Assume the following.

$$((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \quad (3)$$

Assume the following.

$$r1\_xxreal\_0 np\_1 np\_1 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (r1\_xxreal\_0 X0 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (6)$$

Assume the following.

$$\forall X0.k9\_finseq\_1 X0 = k5\_finseq\_1 X0 \quad (7)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow(k4\_finseq\_1 X0 = k9\_xtuple\_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (10)$$

Assume the following.

$$\forall X0.v1\_finseq\_1 (k5\_finseq\_1 X0) \quad (11)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (12)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 (k5\_finseq\_1 X0))\wedge(v1\_funct\_1 (k5\_finseq\_1 X0)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Rightarrow(m1\_subset\_1 X2 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\wedge((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow(((v1\_relat\_1 (k7\_finseq\_1 X0 X1))\wedge((v1\_funct\_1 (k7\_finseq\_1 X0 X1))\wedge(v1\_finseq\_1 (k7\_finseq\_1 X0 X1)))) \quad (15)$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (16)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v1\_finseq\_1 \ X0))) \Rightarrow \\ (m2\_subset\_1 \ (k3\_finseq\_1 \ X0) \ k1\_numbers \ k5\_numbers) \quad (17)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v1\_finseq\_1 \ X0))) \Rightarrow \\ (\forall X1.((v1\_relat\_1 \ X1) \wedge ((v1\_funct\_1 \ X1) \wedge (v1\_finseq\_1 \\ X1)))) \Rightarrow (\forall X2.((v1\_relat\_1 \ X2) \wedge ((v1\_funct\_1 \ X2) \wedge (v1\_finseq\_1 \\ X2)))) \Rightarrow ((X2 = k7\_finseq\_1 \ X0 \ X1) \Leftrightarrow ((k4\_finseq\_1 \ X2 = k2\_finseq\_1 \\ (k2\_nat\_1 \ (k3\_finseq\_1 \ X0) \ (k3\_finseq\_1 \ X1)))) \wedge ((\forall X3.( \\ v7\_ordinal1 \ X3) \Rightarrow ((X3 \in k4\_finseq\_1 \ X0) \Rightarrow (k1\_funct\_1 \ X2 \ X3 = k1\_funct\_1 \\ X0 \ X3)))) \wedge (\forall X3.(v7\_ordinal1 \ X3) \Rightarrow ((X3 \in k4\_finseq\_1 \ X1) \Rightarrow \\ (k1\_funct\_1 \ X2 \ (k2\_nat\_1 \ (k3\_finseq\_1 \ X0) \ X3) = k1\_funct\_1 \ X1 \ X3)))))) \quad (18)$$

Assume the following.

$$\forall X0. \forall X1.((m1\_subset\_1 \ X0 \ k5\_numbers) \wedge (v7\_ordinal1 \\ X1)) \Rightarrow (k2\_nat\_1 \ X0 \ X1 = k2\_nat\_1 \ X1 \ X0) \quad (19)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k4\_ordinal1) \Rightarrow (v7\_ordinal1 \ X0) \quad (20)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v1\_finseq\_1 \ X0))) \Rightarrow \\ ((v1\_relat\_1 \ X0) \wedge ((v4\_relat\_1 \ X0 \ k5\_numbers) \wedge ((v1\_funct\_1 \ X0) \wedge \\ (v1\_finseq\_1 \ X0)))) \quad (21)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 \ X0) \Rightarrow (v1\_xxreal\_0 \ X0) \quad (22)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (v1\_xreal\_0 \ X0) \quad (23)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 \ X0) \Rightarrow (\forall X1.(m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \\ X0)) \Rightarrow (v1\_xboole\_0 \ X1)) \quad (24)$$

**Theorem 1**

$$\forall X0. \forall X1.((v1\_relat\_1 \ X1) \wedge ((v1\_funct\_1 \ X1) \wedge (v1\_finseq\_1 \\ X1))) \Rightarrow ((r1\_xxreal\_0 \ np\_1 \ (k3\_finseq\_1 \ X1)) \Rightarrow ((k1\_funct\_1 \ (k7\_finseq\_1 \\ X1 \ (k9\_finseq\_1 \ X0)) \ np\_1 = k1\_funct\_1 \ X1 \ np\_1) \wedge (k1\_funct\_1 \ ( \\ k7\_finseq\_1 \ (k9\_finseq\_1 \ X0) \ X1) \ (k2\_nat\_1 \ (k3\_finseq\_1 \ X1) \ np\_1) = \\ k1\_funct\_1 \ X1 \ (k3\_finseq\_1 \ X1))))$$