

t1\_uniroots  
(TMar96TdzCxdg8484VkyqcXV5qRcupfkxh1)

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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  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow ((r1\_tarski X0 (k9\_xtuple\_0 X1)) \Rightarrow (k9\_xtuple\_0 (k5\_relat\_1 X1 X0) = X0)) \quad (1)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (\forall X1. (v7\_ordinal1 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Leftrightarrow (r1\_tarski (k2\_finseq\_1 X0) (k2\_finseq\_1 X1)))) \quad (2)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (k1\_nat\_1 X0 np\_1 \in k2\_finseq\_1 (k1\_nat\_1 X0 np\_1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((X0 \in X1) \Rightarrow (k1\_funct\_1 (k5\_relat\_1 X2 X1) X0 = k1\_funct\_1 X2 X0)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1)))\Rightarrow((X1 = k9\_finseq\_1 X0)\Leftrightarrow((k3\_finseq\_1 X1 = np\_1)\wedge(k1\_funct\_1 X1 np\_1 = X0))) \quad (5)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1)))\Rightarrow((v1\_relat\_1 (k5\_relat\_1 X1 (k2\_finseq\_1 X0)))\wedge((v1\_funct\_1 (k5\_relat\_1 X1 (k2\_finseq\_1 X0)))\wedge(v1\_finseq\_1 (k5\_relat\_1 X1 (k2\_finseq\_1 X0)))))) \quad (6)$$

Assume the following.

$$((v2\_xxreal\_0 np\_1)\wedge(m2\_subset\_1 np\_1 k1\_numbers k5\_numbers))\wedge((m1\_subset\_1 np\_1 k5\_numbers)\wedge(m1\_subset\_1 np\_1 k1\_numbers)) \quad (7)$$

Assume the following.

$$(m2\_subset\_1 np\_0 k1\_numbers k5\_numbers)\wedge((m1\_subset\_1 np\_0 k5\_numbers)\wedge(m1\_subset\_1 np\_0 k1\_numbers)) \quad (8)$$

Assume the following.

$$k2\_xcmplx\_0 np\_1 np\_0 = np\_1 \quad (9)$$

Assume the following.

$$\forall X0.k9\_finseq\_1 X0 = k5\_finseq\_1 X0 \quad (10)$$

Assume the following.

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

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow(k3\_finseq\_1 X0 = k1\_card\_1 X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0)\wedge(m1\_subset\_1 X1 k5\_numbers))\Rightarrow(k1\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow((v1\_relat\_1 (k5\_relat\_1 X0 X1))\wedge(v1\_funct\_1 (k5\_relat\_1 X0 X1))) \quad (14)$$

Assume the following.

$$\forall X0.v1\_finseq\_1 (k5\_finseq\_1 X0) \quad (15)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (16)$$

Assume the following.

$$\forall X0.(v1\_finset\_1 X0) \Rightarrow ((v1\_finset\_1 (k1\_card\_1 X0)) \wedge (v1\_card\_1 (k1\_card\_1 X0))) \quad (17)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 (k9\_finseq\_1 X0)) \wedge (v1\_funct\_1 (k9\_finseq\_1 X0)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 X0) \Rightarrow (v1\_relat\_1 (k5\_relat\_1 X0 X1)) \quad (19)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (m2\_subset\_1 (k3\_finseq\_1 X0) k1\_numbers k5\_numbers) \quad (20)$$

Assume the following.

$$\forall X0.v1\_card\_1 (k1\_card\_1 X0) \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow ((X1 = k3\_finseq\_1 X0) \Leftrightarrow (k2\_finseq\_1 X1 = k9\_xtuple\_0 X0))) \end{aligned} \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (m1\_subset\_1 X1 k5\_numbers)) \Rightarrow (k1\_nat\_1 X0 X1 = k1\_nat\_1 X1 X0) \quad (23)$$

Assume the following.

$$\forall X0.((v3\_ordinal1 X0) \wedge (v1\_finset\_1 X0)) \Rightarrow (v7\_ordinal1 X0) \quad (24)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0))) \quad (25)$$

Assume the following.

$$\forall X0.(v1\_card\_1 X0) \Rightarrow (v3\_ordinal1 X0) \quad (26)$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \quad (27)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & ((r1\_xreal\_0 np\_1 (k3\_finseq\_1 X0)) \Rightarrow (k5\_relat\_1 X0 (k2\_finseq\_1 \\ & np\_1) = k9\_finseq\_1 (k1\_funct\_1 X0 np\_1))) \end{aligned}$$