

# t17\_uproots (TMWiM- sqVJ2ZxdNBW4Bf27AGTGzLMo2T9wgk)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_algseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_uproots : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_algseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_polynom3 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k3\_algseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l2\_struct\_0 X0)) \Rightarrow (\forall X1. \\ & ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge \\ & ((v1\_algseq\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers (u1\_struct\_0 X0)))))) \Rightarrow ((k1\_algseq\_1 X0 X1 = k6\_numbers) \Rightarrow \\ & (r2\_funct\_2 k5\_numbers (u1\_struct\_0 X0) X1 (k9\_polynom3 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (r1\_xxreal\_0 k6\_numbers X0) \quad (2)$$

Assume the following.

$$\forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l2\_struct\_0 X0)) \Rightarrow (\forall X1. \\ & ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge \\ & ((v1\_algseq\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers (u1\_struct\_0 X0)))))) \Rightarrow ((r2\_funct\_2 k5\_numbers ( \\ & u1\_struct\_0 X0) X1 (k3\_algseq\_1 X0 (k4\_struct\_0 X0))) \Leftrightarrow (k1\_algseq\_1 \\ & X0 X1 = k6\_numbers))) \end{aligned} \quad (4)$$

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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2)\wedge \\ & ((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))))\wedge((v1\_funct\_1 X3)\wedge((v1\_funct\_2 X3 X0 X1)\wedge(m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))))\Rightarrow((r2\_funct\_2 X0 X1 X2 \\ & X3)\Leftrightarrow(X2 = X3)) \end{aligned} \quad (6)$$

Assume the following.

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

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l2\_struct\_0 X0))\Rightarrow((v1\_funct\_1 (k9\_polynom3 X0))\wedge((v1\_funct\_2 (k9\_polynom3 X0) k5\_numbers (u1\_struct\_0 X0))\wedge(v1\_algseq\_1 (k9\_polynom3 X0) X0))) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l2\_struct\_0 X0))\Rightarrow((v1\_funct\_1 (k9\_polynom3 X0))\wedge((v1\_funct\_2 (k9\_polynom3 X0) k5\_numbers (u1\_struct\_0 X0))\wedge(m1\_subset\_1 (k9\_polynom3 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0)))))) \quad (9)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0)\Rightarrow(m1\_subset\_1 (k4\_struct\_0 X0) (u1\_struct\_0 X0)) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(l2\_struct\_0 X0))\wedge \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)))\Rightarrow((v1\_funct\_1 (k3\_algseq\_1 \\ & X0 X1))\wedge((v1\_funct\_2 (k3\_algseq\_1 X0 X1) k5\_numbers (u1\_struct\_0 \\ & X0))\wedge((v1\_algseq\_1 (k3\_algseq\_1 X0 X1) X0)\wedge(m1\_subset\_1 (k3\_algseq\_1 \\ & X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(l2\_struct\_0 X0))\wedge \\ & ((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0))\wedge \\ & ((v1\_algseq\_1 X1 X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers (u1\_struct\_0 X0))))))\Rightarrow(m1\_subset\_1 (k1\_algseq\_1 \\ & X0 X1) k5\_numbers) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_struct\_0 X0)) \Rightarrow (\forall X1. \\ & ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge \\ & ((v1\_algseq\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers (u1\_struct\_0 X0))))))) \Rightarrow ((v1\_uproots X1 X0) \Leftrightarrow (X1 \neq k9\_polynom3 \\ & X0))) \end{aligned} \tag{13}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \tag{14}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \tag{15}$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \tag{16}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_struct\_0 X0)) \Rightarrow (\forall X1. \\ & ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge \\ & ((v1\_algseq\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers (u1\_struct\_0 X0))))))) \Rightarrow ((v1\_uproots X1 X0) \Leftrightarrow (\neg r1\_xxreal\_0 \\ & (k1\_algseq\_1 X0 X1) k6\_numbers))) \end{aligned}$$