

# t28\_uproots (TM- cRGr78j3VmAKN6QFEGTyc5dNcSFtmmCDp)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v1\_vectsp\_2 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  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  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k11\_polynom3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_polynom3 : \iota \Rightarrow \iota$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k3\_normsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_rlvect\_1 \\ & X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0)))) \Rightarrow (\forall X1. ((v1\_funct\_1 \\ & X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0)))))) \Rightarrow \\ & (r2\_funct\_2 k5\_numbers (u1\_struct\_0 X0) (k3\_normsp\_1 X0 X1 X1) \\ & (k9\_polynom3 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v5\_vectsp\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l6\_algstr\_0 X0)))))) \Rightarrow \\ & (\forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 \\ & X0)) \wedge ((v1\_algseq\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers (u1\_struct\_0 X0)))))) \Rightarrow (\forall X2. ((v1\_funct\_1 \\ & X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (u1\_struct\_0 X0)) \wedge ((v1\_algseq\_1 \\ & X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers ( \\ & u1\_struct\_0 X0)))))) \Rightarrow ((r2\_funct\_2 k5\_numbers (u1\_struct\_0 \\ & X0) (k3\_normsp\_1 X0 X1 X2) (k9\_polynom3 X0)) \Rightarrow (r2\_funct\_2 k5\_numbers \\ & (u1\_struct\_0 X0) X1 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v5\_vectsp\_1 \\
& X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge \\
& (l6\_algstr\_0 X0)))))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\
& X1 \ k5\_numbers \ (u1\_struct\_0 \ X0)) \wedge ((v1\_algseq\_1 \ X1 \ X0) \wedge (m1\_subset\_1 \\
& X1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k5\_numbers \ (u1\_struct\_0 \ X0)))))) \Rightarrow \\
& (\forall X2.((v1\_funct\_1 \ X2) \wedge ((v1\_funct\_2 \ X2 \ k5\_numbers \ (u1\_struct\_0 \\
& X0)) \wedge ((v1\_algseq\_1 \ X2 \ X0) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\
& k5\_numbers \ (u1\_struct\_0 \ X0)))))) \Rightarrow (\forall X3.((v1\_funct\_1 \\
& X3) \wedge ((v1\_funct\_2 \ X3 \ k5\_numbers \ (u1\_struct\_0 \ X0)) \wedge ((v1\_algseq\_1 \\
& X3 \ X0) \wedge (m1\_subset\_1 \ X3 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k5\_numbers \ ( \\
& u1\_struct\_0 \ X0)))))) \Rightarrow (r2\_funct\_2 \ k5\_numbers \ (u1\_struct\_0 \ X0) \\
& (k3\_normsp\_1 \ X0 \ (k11\_polynom3 \ X0 \ X1 \ X2) \ (k11\_polynom3 \ X0 \ X1 \ X3)) \\
& (k11\_polynom3 \ X0 \ X1 \ (k3\_normsp\_1 \ X0 \ X2 \ X3))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v5\_vectsp\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v1\_vectsp\_2 \ X0) \wedge \\
& (l6\_algstr\_0 X0)))))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\
& X1 \ k5\_numbers \ (u1\_struct\_0 \ X0)) \wedge ((v1\_algseq\_1 \ X1 \ X0) \wedge (m1\_subset\_1 \\
& X1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k5\_numbers \ (u1\_struct\_0 \ X0)))))) \Rightarrow \\
& (\forall X2.((v1\_funct\_1 \ X2) \wedge ((v1\_funct\_2 \ X2 \ k5\_numbers \ (u1\_struct\_0 \\
& X0)) \wedge ((v1\_algseq\_1 \ X2 \ X0) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\
& k5\_numbers \ (u1\_struct\_0 \ X0)))))) \Rightarrow (\neg (r2\_funct\_2 \ k5\_numbers \\
& (u1\_struct\_0 \ X0) \ (k11\_polynom3 \ X0 \ X1 \ X2) \ (k9\_polynom3 \ X0)) \wedge ((\neg \\
& r2\_funct\_2 \ k5\_numbers \ (u1\_struct\_0 \ X0) \ X1 \ (k9\_polynom3 \ X0)) \wedge ( \\
& \neg r2\_funct\_2 \ k5\_numbers \ (u1\_struct\_0 \ X0) \ X2 \ (k9\_polynom3 \ X0))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((v1\_funct\_1 \ X2) \wedge \\
& ((v1\_funct\_2 \ X2 \ X0 \ X1) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\
& X0 \ X1)))) \wedge ((v1\_funct\_1 \ X3) \wedge ((v1\_funct\_2 \ X3 \ X0 \ X1) \wedge (m1\_subset\_1 \\
& X3 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ X1)))))) \Rightarrow ((r2\_funct\_2 \ X0 \ X1 \ X2 \\
& X3) \Leftrightarrow (X2 = X3))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v13\_algstr\_0 \\
& X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge(l2\_algstr\_0 X0))))\wedge \\
& ((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0))\wedge \\
& ((v1\_algseq\_1 X1 X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& k5\_numbers (u1\_struct\_0 X0))))))\wedge((v1\_funct\_1 X2)\wedge((v1\_funct\_2 \\
& X2 k5\_numbers (u1\_struct\_0 X0))\wedge((v1\_algseq\_1 X2 X0)\wedge(m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0))))))\wedge \\
& ((v1\_funct\_1 (k3\_normsp\_1 X0 X1 X2))\wedge((v1\_funct\_2 (k3\_normsp\_1 \\
& X0 X1 X2) k5\_numbers (u1\_struct\_0 X0))\wedge(v1\_algseq\_1 (k3\_normsp\_1 \\
& X0 X1 X2) X0)))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0)\Rightarrow((l2\_algstr\_0 X0)\wedge(l5\_algstr\_0 X0)) \tag{7}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0)\Rightarrow((l2\_struct\_0 X0)\wedge(l1\_algstr\_0 X0)) \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0)\wedge(l2\_struct\_0 X0))\Rightarrow((v1\_funct\_1 \\
& (k9\_polynom3 X0))\wedge((v1\_funct\_2 (k9\_polynom3 X0) k5\_numbers ( \\
& u1\_struct\_0 X0))\wedge(m1\_subset\_1 (k9\_polynom3 X0) (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(l2\_algstr\_0 \\
& X0))\wedge((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 \\
& X0))\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& X0))))))\wedge((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 k5\_numbers (u1\_struct\_0 \\
& X0))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& X0))))))\wedge((v1\_funct\_1 (k3\_normsp\_1 X0 X1 X2))\wedge((v1\_funct\_2 \\
& (k3\_normsp\_1 X0 X1 X2) k5\_numbers (u1\_struct\_0 X0))\wedge(m1\_subset\_1 \\
& (k3\_normsp\_1 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& X0))))))
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 \\
& X0)) \wedge (((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 \\
& X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& X0)))))) \wedge ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (u1\_struct\_0 \\
& X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& X0))))))) \Rightarrow ((v1\_funct\_1 (k11\_polynom3 X0 X1 X2)) \wedge ((v1\_funct\_2 \\
& (k11\_polynom3 X0 X1 X2) k5\_numbers (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 \\
& (k11\_polynom3 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers ( \\
& u1\_struct\_0 X0))))))
\end{aligned} \tag{11}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v5\_vectsp\_1 \\
& X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge \\
& ((v1\_vectsp\_2 X0) \wedge (l6\_algstr\_0 X0))))))) \Rightarrow (\forall X1. ((v1\_funct\_1 \\
& X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge ((v1\_algseq\_1 \\
& X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers ( \\
& u1\_struct\_0 X0))))))) \Rightarrow (\forall X2. ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\
& X2 k5\_numbers (u1\_struct\_0 X0)) \wedge ((v1\_algseq\_1 X2 X0) \wedge (m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0))))))) \Rightarrow \\
& (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 k5\_numbers (u1\_struct\_0 \\
& X0)) \wedge ((v1\_algseq\_1 X3 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& k5\_numbers (u1\_struct\_0 X0))))))) \Rightarrow ((r2\_funct\_2 k5\_numbers ( \\
& u1\_struct\_0 X0) (k11\_polynom3 X0 X1 X2) (k11\_polynom3 X0 X1 X3)) \Rightarrow \\
& ((X1 = k9\_polynom3 X0) \vee (r2\_funct\_2 k5\_numbers (u1\_struct\_0 X0) \\
& X2 X3))))))
\end{aligned}$$