

## t34\_trees\_9

(TMP1pxPgWJd5oa7BFtFV6HAsQvei9TkijP)

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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  $v1\_relat\_1 : \iota \Rightarrow o$  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  $k5\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  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  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow ((X1 = k9\_finseq\_1 X0) \Leftrightarrow ((k3\_finseq\_1 X1 = np\_1) \wedge (k1\_funct\_1 X1 np\_1 = X0))) \quad (2)$$

Assume the following.

$$(k2\_finseq\_1 np\_1 = k1\_tarski np\_1) \wedge (k2\_finseq\_1 np\_2 = k2\_tarski np\_1 np\_2) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge (( \\ v1\_funct\_1\ X1) \wedge (v1\_finseq\_1\ X1))) \Rightarrow (\forall X2.((v1\_relat\_1 \\ X2) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_finseq\_1\ X2))) \Rightarrow (((r1\_xxreal\_0\ X0\ ( \\ k3\_finseq\_1\ X1)) \wedge (X2 = k5\_relat\_1\ X1\ (k2\_finseq\_1\ X0))) \Rightarrow ((k3\_finseq\_1 \\ X2 = X0) \wedge (k4\_finseq\_1\ X2 = k2\_finseq\_1\ X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0\ np\_1) \wedge (m2\_subset\_1\ np\_1\ k1\_numbers\ k5\_numbers)) \wedge \\ ((m1\_subset\_1\ np\_1\ k5\_numbers) \wedge (m1\_subset\_1\ np\_1\ k1\_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0) \Leftrightarrow (m1\_finseq\_1\ X1\ X0) \quad (6)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1\ X2\ ( \\ k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow (k5\_relset\_1\ X0\ X1\ X2\ X3 = k5\_relat\_1 \\ X2\ X3) \end{aligned} \quad (8)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_finseq\_1\ X0))) \Rightarrow \\ (k4\_finseq\_1\ X0 = k9\_xtuple\_0\ X0) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v5\_relat\_1\ X1\ X0)) \Rightarrow ( \\ k2\_relset\_1\ X0\ X1 = k10\_xtuple\_0\ X1) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge (m1\_subset\_1\ X1\ X0)) \Rightarrow \\ (k12\_finseq\_1\ X0\ X1 = k5\_finseq\_1\ X1) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0) \Rightarrow ((v1\_funct\_1\ X1) \wedge ( \\ v1\_finseq\_1\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers \\ X0)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(m1\_subset\_1 (k5\_relset\_1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v5\_relat\_1 X1 X0))\Rightarrow(m1\_subset\_1 (k2\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (16)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow(\forall X1.(X1 = k10\_xtuple\_0 X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(\exists X3.(X3 \in k9\_xtuple\_0 X0)\wedge(X2 = k1\_funct\_1 X0 X3)))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(X2 = X0)) \quad (18)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1)\Rightarrow(v7\_ordinal1 X0) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)) \quad (20)$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow(\forall X2.((v1\_relat\_1 X2)\wedge((v1\_funct\_1 X2)\wedge(v1\_finseq\_1 X2)))\Rightarrow(\neg(r1\_xxreal\_0 np\_1 (k3\_finseq\_1 X1))\wedge((X2 = k5\_relset\_1 k5\_numbers X0 X1 (k2\_finseq\_1 np\_1))\wedge(\forall X3.(m1\_subset\_1 X3 X0)\Rightarrow(X2\neq k12\_finseq\_1 X0 X3))))))$$