

## t13\_trees\_a

(TMQEAXi1xLeXNjF5vCcWpaJH5AM3fcF4WAR)

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Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v3\_trees\_2 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_trees\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_trees\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 \\ & X1))) \Rightarrow ((r1\_tarski X0 X1) \Leftrightarrow (\exists X2.((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 \\ & X2) \wedge (v1\_finseq\_1 X2)))) \wedge (X1 = k7\_finseq\_1 X0 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_finseq\_1 X0 k5\_numbers) \Rightarrow (\forall X1.((v1\_relat\_1 \\ & X1) \wedge ((v1\_funct\_1 X1) \wedge (v3\_trees\_2 X1))) \Rightarrow (\forall X2.((v1\_relat\_1 \\ & X2) \wedge ((v1\_funct\_1 X2) \wedge (v3\_trees\_2 X2))) \Rightarrow ((X0 \in k9\_xtuple\_0 X1) \Rightarrow \\ & (\forall X3.(m2\_finseq\_1 X3 k5\_numbers) \Rightarrow (\neg(X3 \in k9\_xtuple\_0 ( \\ & k7\_trees\_2 X1 X0 X2)) \wedge ((\neg(\neg r1\_tarski X0 X3) \wedge (k1\_funct\_1 (k7\_trees\_2 \\ & X1 X0 X2) X3 = k1\_funct\_1 X1 X3)) \wedge (\forall X4.(m2\_finseq\_1 X4 k5\_numbers) \Rightarrow \\ & (\neg(X4 \in k9\_xtuple\_0 X2) \wedge ((X3 = k8\_finseq\_1 k5\_numbers X0 X4) \wedge (k1\_funct\_1 \\ & (k7\_trees\_2 X1 X0 X2) X3 = k1\_funct\_1 X2 X4)))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1\_finseq\_1 X1 X0) \wedge (m1\_finseq\_1 X2 X0)) \Rightarrow (k8\_finseq\_1 X0 X1 X2 = k7\_finseq\_1 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m2\_finseq\_1 X0 k5\_numbers) \Rightarrow (\forall X1.((v1\_relat\_1 \\ & X1) \wedge ((v1\_funct\_1 X1) \wedge (v3\_trees\_2 X1))) \Rightarrow (\forall X2.((v1\_relat\_1 \\ & X2) \wedge ((v1\_funct\_1 X2) \wedge (v3\_trees\_2 X2))) \Rightarrow ((X0 \in k9\_xtuple\_0 X1) \Rightarrow \\ & (\forall X3.(m2\_finseq\_1 X3 k5\_numbers) \Rightarrow (((X3 \in k9\_xtuple\_0 ( \\ & k7\_trees\_2 X1 X0 X2)) \wedge (X3 \in ReplSep (toset (\lambda X4 : \iota.m1\_trees\_1 \\ & X4 (k9\_xtuple\_0 X1))) (\lambda X4 : \iota.\neg r1\_tarski X0 X4) (\lambda X4 : \iota. \\ & X4))) \Rightarrow (k1\_funct\_1 (k7\_trees\_2 X1 X0 X2) X3 = k1\_funct\_1 X1 X3)))))) \end{aligned}$$