

t12\_trees\_a  
(TMPcC2VgjLx7i1TdCSsm4kU38mF9n98tPZK)

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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  $m4\_trees\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k3\_trees\_a : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  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. Let  $v1\_trees\_1 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v2\_trees\_1 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarSKI X0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow ((r1\_tarSKI X0 X1) \Leftrightarrow (\exists X2.((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 X2)))) \wedge (X1 = k7\_finseq\_1 X0 X2)))) \quad (4) \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v3\_trees\_2 X0))) \Rightarrow \\
& (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v3\_trees\_2 X1))) \Rightarrow \\
& (\forall X2.(m4\_trees\_1 X2 (k9\_xtuple\_0 X0)) \Rightarrow ((X2 \neq k1\_xboole\_0) \Rightarrow \\
& (\forall X3.(m2\_finseq\_1 X3 k5\_numbers) \Rightarrow (\neg(X3 \in k9\_xtuple\_0 ( \\
& k3\_trees\_a X0 X2 X1))) \wedge ((\exists X4.(m2\_finseq\_1 X4 k5\_numbers) \wedge \\
& ((X4 \in X2) \wedge (\neg(\neg r1\_tarski X4 X3) \wedge (k1\_funct\_1 (k3\_trees\_a X0 X2 X1) \\
& X3 = k1\_funct\_1 X0 X3)))) \wedge (\forall X4.(m2\_finseq\_1 X4 k5\_numbers) \Rightarrow \\
& (\forall X5.(m2\_finseq\_1 X5 k5\_numbers) \Rightarrow (\neg(X4 \in X2) \wedge ((X5 \in k9\_xtuple\_0 \\
& X1) \wedge ((X3 = k8\_finseq\_1 k5\_numbers X4 X5) \wedge (k1\_funct\_1 (k3\_trees\_a \\
& X0 X2 X1) X3 = k1\_funct\_1 X1 X5)))))))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge (v1\_trees\_1 X0)) \Rightarrow (\forall X1. \\
& (m1\_trees\_1 X1 X0) \Leftrightarrow (m1\_subset\_1 X1 X0))
\end{aligned} \tag{7}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1\_finseq\_1 X1 X0) \wedge (m1\_finseq\_1 X2 X0)) \Rightarrow (k8\_finseq\_1 X0 X1 X2 = k7\_finseq\_1 X1 X2) \tag{8}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v3\_trees\_2 X0))) \Rightarrow \\
& ((\neg v1\_xboole\_0 (k9\_xtuple\_0 X0)) \wedge (v1\_trees\_1 (k9\_xtuple\_0 X0)))
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge (v1\_trees\_1 X0)) \Rightarrow (\forall X1. \\
& (m4\_trees\_1 X1 X0) \Rightarrow (v2\_trees\_1 X1))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow ((v1\_funct\_1 X1) \wedge ( \\
& (v1\_finseq\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\
& X0))))))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge (v1\_trees\_1 X0)) \Rightarrow (\forall X1. \\
& (m1\_trees\_1 X1 X0) \Rightarrow (m2\_finseq\_1 X1 k5\_numbers))
\end{aligned} \tag{13}$$

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.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\wedge((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow((v1\_relat\_1 (k7\_finseq\_1 X0 X1))\wedge((v1\_funct\_1 (k7\_finseq\_1 X0 X1))\wedge(v1\_finseq\_1 (k7\_finseq\_1 X0 X1)))) \quad (15)$$

Assume the following.

$$k1\_xboole\_0 = the (\lambda X0 : \iota.v1\_xboole\_0 X0) \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Leftrightarrow(\forall X1.\neg X1 \in X0) \quad (17)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0)\wedge(v1\_trees\_1 X0))\Rightarrow(\forall X1.(v2\_trees\_1 X1)\Rightarrow((m4\_trees\_1 X1 X0)\Leftrightarrow(r1\_tarski X1 X0))) \quad (18)$$

### Theorem 1

$$\begin{aligned} & \forall X0.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_trees\_2 X0)))\Rightarrow \\ & (\forall X1.((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v3\_trees\_2 X1))))\Rightarrow \\ & (\forall X2.(m4\_trees\_1 X2 (k9\_xtuple\_0 X0))\Rightarrow((X2\neq k1\_xboole\_0)\Rightarrow \\ & (\forall X3.(m2\_finseq\_1 X3 k5\_numbers)\Rightarrow(((X3 \in k9\_xtuple\_0 ( \\ & k3\_trees\_a X0 X2 X1))\wedge(X3 \in ReplSep (toset (\lambda X4 : \iota.m1\_trees\_1 \\ & X4 (k9\_xtuple\_0 X0))) (\lambda X4 : \iota.\forall X5.(m2\_finseq\_1 X5 \\ & k5\_numbers)\Rightarrow(\neg(X5 \in X2)\wedge(r1\_tarski X5 X4))) (\lambda X4 : \iota.X4))))\Rightarrow \\ & (k1\_funct\_1 (k3\_trees\_a X0 X2 X1) X3 = k1\_funct\_1 X0 X3)))))) \end{aligned}$$