

## t24\_trees\_9

(TMRYJbyfJrC4y1ouycZ6cmop1mLpmHes2qw)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v3\_trees\_3 : \iota \Rightarrow o$  be given. Let  $k12\_trees\_9 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_trees\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_trees\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_trees\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (v3\_trees\_3 X0)) \Rightarrow (\forall X1. \\
 & k12\_trees\_9 X0 X1 = ReplSep2 (toset (\lambda X2 : \iota. m1\_subset\_1 X2 \\
 & X0)) (\lambda X2 : \iota. toset (\lambda X3 : \iota. m1\_trees\_1 X3 (k9\_xtuple\_0 \\
 & X2))) (\lambda X2 : \iota. \lambda X3 : \iota. \neg (X3 \in k3\_trees\_1 (k9\_xtuple\_0 \\
 & X2))) \wedge (\neg k1\_funct\_1 X2 X3 \in X1)) (\lambda X2 : \iota. \lambda X3 : \iota. k5\_trees\_2 \\
 & X2 X3)) \tag{1}
 \end{aligned}$$

**Theorem 1**

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X2) \wedge (v3\_trees\_3 \\
 & X2)) \Rightarrow ((X0 \in k12\_trees\_9 X2 X1) \Leftrightarrow (\exists X3. (m1\_subset\_1 X3 X2) \wedge \\
 & (\exists X4. (m1\_trees\_1 X4 (k9\_xtuple\_0 X3)) \wedge ((X0 = k5\_trees\_2 \\
 & X3 X4) \wedge (\neg (X4 \in k3\_trees\_1 (k9\_xtuple\_0 X3)) \wedge (\neg k1\_funct\_1 X3 X4 \in \\
 & X1))))))
 \end{aligned}$$