

t37\_trees\_1  
(TMS53h81R7GnMx9TEneq8536MfQ7DE42zHj)

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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  $r3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_trees\_1 : \iota \Rightarrow o$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (r3\_xboole\_0 X0 X1) \Rightarrow (r3\_xboole\_0 X1 X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k2\_tarski X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 = X0) \vee (X3 = X1))) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (v2\_trees\_1 X0) \Leftrightarrow (&(\forall X1. (X1 \in X0) \Rightarrow ((v1\_relat\_1 \\ &X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1)))) \wedge (\forall X1. ((v1\_relat\_1 \\ &X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow (\forall X2. ((v1\_relat\_1 \\ &X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 X2))) \Rightarrow (\neg (X1 \in X0) \wedge ((X2 \in X0) \wedge \\ &((X1 \neq X2) \wedge (r3\_xboole\_0 X1 X2))))))) \end{aligned} \quad (3)$$

**Theorem 1**

$$\begin{aligned} \forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ (\forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 \\ X1))) \Rightarrow ((\neg r3\_xboole\_0 X0 X1) \Rightarrow (v2\_trees\_1 (k2\_tarski X0 X1)))) \end{aligned}$$