

t10_trees_1

(TMN3CUDWnsr42JVfXxbJ2MPHHmf1knAXCj4)

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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 $r2_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & X1)))) \Rightarrow (((X0 = k7_finseq_1 X0 X1) \vee (X0 = k7_finseq_1 X1 X0)) \Rightarrow (X1 = \\ & k1_xboole_0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & X1)))) \Rightarrow ((r1_tarski X0 X1) \Leftrightarrow (\exists X2.((v1_relat_1 X2) \wedge ((v1_funct_1 \\ & X2) \wedge (v1_finseq_1 X2)))) \wedge (X1 = k7_finseq_1 X0 X2))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1.(((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 \\ & X0))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow \\ & ((v1_relat_1 (k7_finseq_1 X0 X1)) \wedge ((v1_funct_1 (k7_finseq_1 \\ & X0 X1)) \wedge (v1_finseq_1 (k7_finseq_1 X0 X1)))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. (r2_xboole_0 X0 X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (X0 \neq X1)) \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & X1)))) \Rightarrow (((\neg(\neg r2_xboole_0 k1_xboole_0 X0) \wedge (k1_xboole_0 = X0)) \Rightarrow \\ & (r2_xboole_0 X1 (k7_finseq_1 X1 X0)))) \end{aligned}$$