

t1_trees_a
(TMUrhteqjF8rQ5q1w1W2R9cYwwzk9w1Pf4A)

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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 $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & \quad (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & \quad X1)))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 \\ & \quad X2)))) \Rightarrow (((r1_tarski X0 X2) \wedge (r1_tarski X1 X2)) \Rightarrow (r3_xboole_0 X0 \\ & \quad X1)))) \end{aligned} \quad (1)$$

Assume the following.

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

Assume the following.

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

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & \quad (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & \quad X1)))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 \\ & \quad X2)))) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge ((v1_funct_1 X3) \wedge (v1_finseq_1 \\ & \quad X3)))) \Rightarrow ((k7_finseq_1 X0 X1 = k7_finseq_1 X3 X2) \Rightarrow (r3_xboole_0 X0 \\ & \quad X3)))) \end{aligned}$$