

t7_trees_2

(TMcq9jhfNGu8bt6CPAvUsMHi7u9h4jKBKAK)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_trees_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_trees_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v1_xboole_0 X0) \wedge (v1_trees_1 \\ & X0)) \wedge ((m1_finseq_1 X1 k5_numbers) \wedge ((\neg v1_xboole_0 X2) \wedge (v1_trees_1 \\ & X2)))) \Rightarrow ((\neg v1_xboole_0 (k5_trees_1 X0 X1 X2)) \wedge (v1_trees_1 (k5_trees_1 \\ & X0 X1 X2))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1_xboole_0 X0) \wedge (v1_trees_1 X0)) \Rightarrow (\forall X1. \\ & (m2_finseq_1 X1 k5_numbers) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge \\ & (v1_trees_1 X2)) \Rightarrow ((X1 \in X0) \Rightarrow (\forall X3. ((\neg v1_xboole_0 X3) \wedge \\ & v1_trees_1 X3)) \Rightarrow ((X3 = k5_trees_1 X0 X1 X2) \Leftrightarrow (\forall X4. (m2_finseq_1 \\ & X4 k5_numbers) \Rightarrow ((X4 \in X3) \Leftrightarrow (\neg(\neg(X4 \in X0) \wedge (\neg r2_xboole_0 X1 X4)) \wedge \\ & (\forall X5. (m2_finseq_1 X5 k5_numbers) \Rightarrow (\neg(X5 \in X2) \wedge (X4 = k8_finseq_1 \\ & k5_numbers X1 X5)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (r2_xboole_0 X0 X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (X0 \neq X1)) \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_trees_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge (v1_trees_1 X1)) \Rightarrow (\forall X2.(m2_finseq_1 \\ & X2 k5_numbers) \Rightarrow (\forall X3.(m2_finseq_1 X3 k5_numbers) \Rightarrow (((X2 \in \\ & X0) \wedge (X3 \in X0)) \Rightarrow ((r1_tarski X2 X3) \vee (X3 \in k5_trees_1 X0 X2 X1)))))) \end{aligned}$$