

t36_trees_9 (TMN- ToxZ1VdSTnBpGJFaLDuwdLKR675Z8Ekx)

October 27, 2020

Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v3_trees_2 : \iota \Rightarrow o$ be given. Let $v3_trees_9 : \iota \Rightarrow o$ be given. Let $m1_trees_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_trees_9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_trees_9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_trees_1 : \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

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

Assume the following.

$$\forall X0. ((\neg v1_xboole_0 X0) \wedge (v1_trees_1 X0)) \Rightarrow (\forall X1. (m1_trees_1 X1 X0) \Leftrightarrow (m1_subset_1 X1 X0)) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_trees_2 X0))) \Rightarrow ((\neg v1_xboole_0 (k9_xtuple_0 X0)) \wedge (v1_trees_1 (k9_xtuple_0 X0))) \quad (4)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole_0 X0) \wedge (v1_trees_1 X0)) \Rightarrow (\forall X1. (m1_trees_1 X1 X0) \Rightarrow (m2_finseq_1 X1 k5_numbers)) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(\\ v3_trees_2 X0)\wedge(v3_trees_9 X0))))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 \\ X1)\wedge(v1_finseq_1 X1))))\Rightarrow((v1_relat_1 (k2_trees_9 X0 X1))\wedge((\\ v1_funct_1 (k2_trees_9 X0 X1))\wedge(v1_finseq_1 (k2_trees_9 X0 X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v3_trees_2 X0)\wedge \\ (v3_trees_9 X0))))\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 \\ X1)\wedge(v1_finseq_1 X1))))\Rightarrow((X1 \in k9_xtuple_0 X0)\Rightarrow(\forall X2.((\\ v1_relat_1 X2)\wedge((v1_funct_1 X2)\wedge(v1_finseq_1 X2))))\Rightarrow((X2 = k2_trees_9 \\ X0 X1)\Leftrightarrow(\exists X3.(m1_trees_1 X3 (k9_xtuple_0 X0))\wedge((X3 = X1)\wedge \\ (X2 = k3_relat_1 (k1_trees_9 (k9_xtuple_0 X0) X3) X0)))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v3_trees_2 X0)\wedge \\ (v3_trees_9 X0))))\Rightarrow(\forall X1.(m1_trees_1 X1 (k9_xtuple_0 X0))\Rightarrow \\ (k2_trees_9 X0 X1 = k3_relat_1 (k1_trees_9 (k9_xtuple_0 X0) X1) \\ X0)) \end{aligned}$$