

t79_trees_3

(TMKunvxMsFm6ryctoohhBJ2R4cynTU7eYS7q)

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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 $v5_trees_3 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_trees_1 : \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_trees_1 : \iota \Rightarrow \iota$ be given. Let $k11_trees_3 : \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 \\ & X0) \wedge (v5_trees_3 X0)))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v1_finset_1 \\ & X1) \wedge (v1_trees_1 X1))) \Rightarrow (\neg (X1 \in k10_xtuple_0 X0) \wedge (r1_xxreal_0 \\ & (k6_trees_1 (k11_trees_3 X0)) (k6_trees_1 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((v1_relat_1 \\ & X1) \wedge ((v1_funct_1 X1) \wedge ((v1_finseq_1 X1) \wedge (v5_trees_3 X1)))) \Rightarrow \\ & ((\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_finset_1 X2) \wedge (v1_trees_1 \\ & X2)))) \Rightarrow ((X2 \in k10_xtuple_0 X1) \Rightarrow (r1_xxreal_0 (k6_trees_1 X2) X0))) \Rightarrow \\ & (r1_xxreal_0 (k6_trees_1 (k11_trees_3 X1)) (k2_nat_1 X0 np_1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (3)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((\neg r1_xxreal_0 (k1_nat_1 X1 np_1) X0) \Leftrightarrow (r1_xxreal_0 X0 X1))) \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \ X0 \ k5_numbers) \wedge (v7_ordinal1 \ X1)) \Rightarrow (k2_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((v7_ordinal1 \ X0) \wedge (m1_subset_1 \ X1 \ k5_numbers)) \Rightarrow (k1_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 \ X0) \wedge ((v1_funct_1 \ X0) \wedge ((v1_finseq_1 \\ & X0) \wedge (v5_trees_3 \ X0)))) \Rightarrow ((\neg v1_xboole_0 \ (k11_trees_3 \ X0)) \wedge ((\\ & v1_finset_1 \ (k11_trees_3 \ X0)) \wedge (v1_trees_1 \ (k11_trees_3 \ X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. ((v7_ordinal1 \ X0) \wedge (v7_ordinal1 \ X1)) \Rightarrow (v7_ordinal1 \ (k2_xcmplx_0 \ X0 \ X1)) \quad (10)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole_0 \ X0) \wedge ((v1_finset_1 \ X0) \wedge (v1_trees_1 \ X0))) \Rightarrow (m1_subset_1 \ (k6_trees_1 \ X0) \ k5_numbers) \quad (11)$$

Assume the following.

$$\forall X0. ((v1_relat_1 \ X0) \wedge ((v1_funct_1 \ X0) \wedge (v1_finseq_1 \ X0))) \Rightarrow ((\neg v1_xboole_0 \ (k11_trees_3 \ X0)) \wedge (v1_trees_1 \ (k11_trees_3 \ X0))) \quad (12)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (13)$$

Assume the following.

$$\forall X0. (v7_ordinal1 \ X0) \Rightarrow (v1_xreal_0 \ X0) \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v1_relat_1 \ X0) \wedge ((v1_funct_1 \ X0) \wedge ((v1_finseq_1 \\ & X0) \wedge (v5_trees_3 \ X0)))) \Rightarrow (\forall X1. ((\neg v1_xboole_0 \ X1) \wedge ((v1_finset_1 \\ & X1) \wedge (v1_trees_1 \ X1)))) \Rightarrow (((X1 \in k10_xtuple_0 \ X0) \wedge (\forall X2. (\\ & (\neg v1_xboole_0 \ X2) \wedge ((v1_finset_1 \ X2) \wedge (v1_trees_1 \ X2)))) \Rightarrow ((X2 \in \\ & k10_xtuple_0 \ X0) \Rightarrow (r1_xreal_0 \ (k6_trees_1 \ X2) \ (k6_trees_1 \ X1)))))) \Rightarrow \\ & (k6_trees_1 \ (k11_trees_3 \ X0) = k2_nat_1 \ (k6_trees_1 \ X1) \ np_1)) \end{aligned}$$