

t10_trees_a
(TMNvK8ZvjonYjWzzfx29EQTixPZh6EddeHy)

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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 $m4_trees_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k3_trees_a : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_trees_a : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_relat_1 X0) \wedge ((v1_funct_1 \\ & X0) \wedge (v3_trees_2 X0))) \wedge ((m4_trees_1 X1 (k9_xtuple_0 X0)) \wedge ((v1_relat_1 \\ & X2) \wedge ((v1_funct_1 X2) \wedge (v3_trees_2 X2)))))) \Rightarrow ((v1_relat_1 (k3_trees_a \\ & X0 X1 X2)) \wedge ((v1_funct_1 (k3_trees_a X0 X1 X2)) \wedge (v3_trees_2 (k3_trees_a \\ & X0 X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_trees_2 X0))) \Rightarrow \\ & (\forall X1. (m4_trees_1 X1 (k9_xtuple_0 X0)) \Rightarrow (\forall X2. ((v1_relat_1 \\ & X2) \wedge ((v1_funct_1 X2) \wedge (v3_trees_2 X2)))) \Rightarrow ((X1 \neq k1_xboole_0) \Rightarrow \\ & (\forall X3. ((v1_relat_1 X3) \wedge ((v1_funct_1 X3) \wedge (v3_trees_2 X3)))) \Rightarrow \\ & ((X3 = k3_trees_a X0 X1 X2) \Leftrightarrow ((k9_xtuple_0 X3 = k1_trees_a (k9_xtuple_0 \\ & X0) (k9_xtuple_0 X2) X1) \wedge (\forall X4. (m2_finseq_1 X4 k5_numbers) \Rightarrow \\ & (\neg(X4 \in k1_trees_a (k9_xtuple_0 X0) (k9_xtuple_0 X2) X1) \wedge ((\exists X5. \\ & (m2_finseq_1 X5 k5_numbers) \wedge ((X5 \in X1) \wedge (\neg(\neg r1_tarski X5 X4) \wedge \\ & k1_funct_1 X3 X4 = k1_funct_1 X0 X4)))) \wedge (\forall X5. (m2_finseq_1 \\ & X5 k5_numbers) \Rightarrow (\forall X6. (m2_finseq_1 X6 k5_numbers) \Rightarrow (\neg(X5 \in \\ & X1) \wedge ((X6 \in k9_xtuple_0 X2) \wedge ((X4 = k8_finseq_1 k5_numbers X5 X6) \wedge \\ & (k1_funct_1 X3 X4 = k1_funct_1 X2 X6)))))))))) \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_trees_2 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v3_trees_2 X1)))) \Rightarrow \\ & (\forall X2.(m4_trees_1 X2 (k9_xtuple_0 X0)) \Rightarrow ((X2 \neq k1_xboole_0) \Rightarrow \\ & (\forall X3.(m2_finseq_1 X3 k5_numbers) \Rightarrow (\neg(X3 \in k9_xtuple_0 (\\ & k3_trees_a X0 X2 X1)) \wedge ((\exists X4.(m2_finseq_1 X4 k5_numbers) \wedge \\ & ((X4 \in X2) \wedge (\neg(\neg r1_tarski X4 X3) \wedge (k1_funct_1 (k3_trees_a X0 X2 X1) \\ & X3 = k1_funct_1 X0 X3)))) \wedge (\forall X4.(m2_finseq_1 X4 k5_numbers) \Rightarrow \\ & (\forall X5.(m2_finseq_1 X5 k5_numbers) \Rightarrow (\neg(X4 \in X2) \wedge ((X5 \in k9_xtuple_0 \\ & X1) \wedge ((X3 = k8_finseq_1 k5_numbers X4 X5) \wedge (k1_funct_1 (k3_trees_a \\ & X0 X2 X1) X3 = k1_funct_1 X1 X5))))))))))))) \end{aligned}$$