

t21_trees_2 (TMSqEoGrHfPXQP- GRr1tNpGbzvXC4ZM8oR9U)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_trees_1 : \iota \Rightarrow o$ be given. 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 $m1_trees_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_trees_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $r2_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X1) \wedge (v1_trees_1 X1)) \Rightarrow (X0 \in X1) \Rightarrow (m2_finseq_1 X0 k5_numbers) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow ((X0 \in k1_trees_1 X1) \Leftrightarrow (r2_xboole_0 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole_0 X0) \wedge (v1_trees_1 X0)) \Rightarrow (\forall X1. (m1_trees_2 X1 X0) \Rightarrow (m1_subset_1 X1 (k1_zfmisc_1 X0))) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (r3_xboole_0 X0 X1) \Leftrightarrow ((r1_tarski X0 X1) \vee (r1_tarski X1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(r2_xboole_0 X0 X1)\Leftrightarrow((r1_tarski X0 X1)\wedge (X0\neq X1)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0)\wedge(v1_trees_1 X0))\Rightarrow(\forall X1. \\ (m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow((m1_trees_2 X1 X0)\Leftrightarrow(\forall X2. \\ (m2_finseq_1 X2 k5_numbers)\Rightarrow(\forall X3.(m2_finseq_1 X3 k5_numbers)\Rightarrow \\ (((X2 \in X1)\wedge(X3 \in X1))\Rightarrow(r3_xboole_0 X2 X3)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski X0 X1)\wedge(r1_tarski X1 X0)) \quad (9)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0)\wedge(v1_trees_1 X0))\Rightarrow(\forall X1. \\ ((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1)))\Rightarrow(\forall X2. \\ ((v1_relat_1 X2)\wedge((v1_funct_1 X2)\wedge(v1_finseq_1 X2)))\Rightarrow(\forall X3. \\ (m1_trees_2 X3 X0)\Rightarrow(\neg(X1 \in X3)\wedge((X2 \in X3)\wedge((\neg X1 \in k1_trees_1 X2)\wedge \\ (\neg r1_tarski X2 X1)))))) \end{aligned}$$