

t17_qc_lang4
(TMS25n91JVhdYAgUQRNwqn65iEAEViszso3)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $m1_trees_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_qc_lang4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_trees_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_trees_1 : \iota \Rightarrow o$ be given. Let $k6_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $r2_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v3_trees_2 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k2_trees_9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_qc_lang4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (2)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v1_trees_1 X0)) \Rightarrow ((k1_xboole_0 \in X0) \wedge (k6_finseq_1 k5_numbers \in X0)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_trees_1 X2 (k9_xtuple_0 (k2_qc_lang4 X0 \\ X1))) \Rightarrow (\forall X3.(m1_trees_1 X3 (k9_xtuple_0 (k2_qc_lang4 X0 \\ X1)))) \Rightarrow ((r2_xboole_0 X2 X3) \Rightarrow (r3_qc_lang2 X0 (k3_trees_2 (k9_qc_lang1 \\ X0) (k2_qc_lang4 X0 X1) X3) (k3_trees_2 (k9_qc_lang1 X0) (k2_qc_lang4 \\ X0 X1) X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v1_trees_1 X0)) \Rightarrow (\forall X1. (m1_trees_1 X1 X0) \Leftrightarrow (m1_subset_1 X1 X0)) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((v1_relat_1 X1) \wedge ((v5_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge (v3_trees_2 X1)))) \wedge (m1_subset_1 X2 (k9_xtuple_0 X1)))) \Rightarrow (k3_trees_2 X0 X1 X2 = k1_funct_1 X1 X2) \quad (7)$$

Assume the following.

$$\forall X0. \exists X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (v1_xboole_0 X1) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_qc_lang1 X0) \wedge ((m1_subset_1 X1 (k9_qc_lang1 X0)) \wedge (m1_subset_1 X2 (k9_qc_lang1 X0)))) \Rightarrow (\neg r3_qc_lang2 X0 X1 X1) \quad (9)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_trees_2 X0))) \Rightarrow ((\neg v1_xboole_0 (k9_xtuple_0 X0)) \wedge (v1_trees_1 (k9_xtuple_0 X0))) \quad (10)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k9_qc_lang1 X0)) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k9_qc_lang1 X0))) \Rightarrow ((v1_relat_1 (k2_qc_lang4 X0 X1)) \wedge ((v5_relat_1 (k2_qc_lang4 X0 X1) (k9_qc_lang1 X0)) \wedge ((v1_funct_1 (k2_qc_lang4 X0 X1)) \wedge ((v1_finset_1 (k2_qc_lang4 X0 X1)) \wedge (v3_trees_2 (k2_qc_lang4 X0 X1)))))) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. (r2_xboole_0 X0 X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (X0 \neq X1)) \quad (13)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k9_qc_lang1 X0)) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge ((v5_relat_1 X2 (k9_qc_lang1 X0)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v3_trees_2 X2)))))) \Rightarrow ((X2 = k2_qc_lang4 X0 X1) \Leftrightarrow ((k1_funct_1 X2 k1_xboole_0 = X1) \wedge (\forall X3. (m1_trees_1 X3 (k9_xtuple_0 X2)) \Rightarrow (k2_trees_9 X2 X3 = k1_qc_lang4 X0 (k3_trees_2 (k9_qc_lang1 X0) X2 X3)))))) \quad (14)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_trees_1\ X2\ (k9_xtuple_0\ (k2_qc_lang4\ X0 \\ X1))) \Rightarrow ((k3_trees_2\ (k9_qc_lang1\ X0)\ (k2_qc_lang4\ X0\ X1)\ X2 = X1) \Leftrightarrow \\ (X2 = k1_xboole_0)))) \end{aligned}$$