

t18_cqc_lang

(TMNuaemnGKaJ9vCcFbPKJxjnD63Eok22aYc)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $v3_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_cqc_lang : \iota \Rightarrow \iota$ be given. Let $v2_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_qc_lang3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v4_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k14_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k21_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k22_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k3_qc_lang1 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k2_qc_lang1 X0)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_qc_lang1 X0) \Rightarrow (m1_subset_1 (k3_qc_lang1 X0) (k1_zfmisc_1 \\ & (k2_qc_lang1 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k9_qc_lang1\ X0)))\Rightarrow(m1_subset_1\ (k18_qc_lang1\ X0\ X1)\ (k9_qc_lang1\ X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k9_qc_lang1\ X0)))\Rightarrow(m1_subset_1\ (k13_qc_lang1\ X0\ X1)\ (k9_qc_lang1\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1\ X0)\wedge((m1_subset_1\ X1\ (k9_qc_lang1\ X0))\wedge(m1_subset_1\ X2\ (k3_qc_lang1\ X0))))\Rightarrow(m1_subset_1\ (k13_cqc_lang\ X0\ X1\ X2)\ (k9_qc_lang1\ X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(\forall X2.(m2_subset_1\ X2\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0))\Rightarrow(\forall X3.(m1_subset_1\ X3\ (k9_qc_lang1\ X0))\Rightarrow((X3 = k13_cqc_lang\ X0\ X1\ X2)\Leftrightarrow(\exists X4.((v1_funct_1\ X4)\wedge((v1_funct_2\ X4\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0))\wedge(m1_subset_1\ X4\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0))))))\wedge((X3 = k3_funct_2\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0)\ X4\ X1)\wedge(\forall X5.(m1_subset_1\ X5\ (k9_qc_lang1\ X0))\Rightarrow((k3_funct_2\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0)\ X4\ (k5_cqc_lang\ X0) = k5_cqc_lang\ X0)\wedge((v2_qc_lang1\ X5\ X0)\Rightarrow(k3_funct_2\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0)\ X4\ X5 = k10_qc_lang1\ X0\ (k16_qc_lang1\ X0\ X5)\ (k1_cqc_lang\ X0\ (k17_qc_lang1\ X0\ X5)\ (k2_cqc_lang\ X0\ (k3_qc_lang3\ X0\ k6_numbers)\ X2))))\wedge((v3_qc_lang1\ X5\ X0)\Rightarrow(k3_funct_2\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0)\ X4\ X5 = k13_qc_lang1\ X0\ (k3_funct_2\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0)\ X4\ (k18_qc_lang1\ X0\ X5))))\wedge((v4_qc_lang1\ X5\ X0)\Rightarrow(k3_funct_2\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0)\ X4\ X5 = k14_qc_lang1\ X0\ (k3_funct_2\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0)\ X4\ (k19_qc_lang1\ X0\ X5))\ (k3_funct_2\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0)\ X4\ (k20_qc_lang1\ X0\ X5))))\wedge((v5_qc_lang1\ X5\ X0)\Rightarrow(k3_funct_2\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0)\ X4\ X5 = k15_funcop_1\ (k9_qc_lang1\ X0)\ (k21_qc_lang1\ X0\ X5)\ X2\ X5\ (k15_qc_lang1\ X0\ (k21_qc_lang1\ X0\ X5)\ (k3_funct_2\ (k9_qc_lang1\ X0)\ (k9_qc_lang1\ X0)\ X4\ (k22_qc_lang1\ X0\ X5)))))))))))))) \quad (8) \end{aligned}$$

Theorem 1

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m2_subset_1\ X1\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\Rightarrow((v3_qc_lang1\ X2\ X0)\Rightarrow(k13_cqc_lang\ X0\ X2\ X1 = k13_qc_lang1\ X0\ (k13_cqc_lang\ X0\ (k18_qc_lang1\ X0\ X2)\ X1))))))$$