

t58_cqc_the1
(TMdc5bN6AxGGDpVfGxk3Pxrngo4NDS5FXc)

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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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k3_cqc_lang : \iota \Rightarrow \iota$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ 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 $k13_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_cqc_the1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k24_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_cqc_the1 : \iota$ be given. Let $r2_cqc_the1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_cqc_the1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_cqc_the1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (k3_cqc_lang X0))) \Rightarrow (ReplSep (toset (\lambda X2 : \iota.m2_subset_1 \\ X2 (k9_qc_lang1 X0) (k3_cqc_lang X0))) (\lambda X2 : \iota.\exists X3. \\ (m2_finseq_1 X3 (k2_zfmisc_1 (k3_cqc_lang X0) k2_cqc_the1)) \wedge \\ ((r2_cqc_the1 X0 X1 X3) \wedge (k3_cqc_the1 X0 X3 = X2))) (\lambda X2 : \iota. \\ X2) = k1_cqc_the1 X0 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (k3_cqc_lang X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k2_qc_lang1 X0) (k3_qc_lang1 \\ X0)) \Rightarrow (\forall X4.(m2_subset_1 X4 (k2_qc_lang1 X0) (k3_qc_lang1 \\ X0)) \Rightarrow (((k13_cqc_lang X0 X2 X3 \in k3_cqc_lang X0) \wedge ((k13_cqc_lang \\ X0 X2 X4 \in k3_cqc_lang X0) \wedge (k13_cqc_lang X0 X2 X3 \in k1_cqc_the1 X0 \\ X1))) \Rightarrow ((X3 \in k24_qc_lang1 X0 X2) \vee (k13_cqc_lang X0 X2 X4 \in k1_cqc_the1 \\ X0 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (k3_cqc_lang\ X0))) \Rightarrow (r1_tarski\ (ReplSep\ (toset\ (\lambda X2 : \iota.m2_subset_1 \\ X2\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0)))\ (\lambda X2 : \iota.\exists X3. \\ (m2_finseq_1\ X3\ (k2_zfmisc_1\ (k3_cqc_lang\ X0)\ k2_cqc_the1))) \wedge \\ ((r2_cqc_the1\ X0\ X1\ X3) \wedge (k3_cqc_the1\ X0\ X3 = X2)))\ (\lambda X2 : \iota. \\ X2))\ (k3_cqc_lang\ X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (\neg v1_xboole_0\ (k3_qc_lang1\ X0)) \quad (5)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (m1_subset_1\ (k3_qc_lang1\ X0)\ (k1_zfmisc_1 \\ (k2_qc_lang1\ X0))) \quad (6)$$

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.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (k3_cqc_lang\ X0))) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1 \\ X0)) \Rightarrow ((r3_cqc_the1\ X0\ X1\ X2) \Leftrightarrow (X2 \in k1_cqc_the1\ X0\ X1)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow \\ (X2 \in X1)) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ X0)) \Rightarrow (v1_xboole_0\ X1)) \quad (10)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (k3_cqc_lang\ X0))) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X3.(m2_subset_1\ X3\ (k2_qc_lang1\ X0)\ (k3_qc_lang1 \\ X0)) \Rightarrow (\forall X4.(m2_subset_1\ X4\ (k2_qc_lang1\ X0)\ (k3_qc_lang1 \\ X0)) \Rightarrow (((k13_cqc_lang\ X0\ X2\ X3 \in k3_cqc_lang\ X0) \wedge (r3_cqc_the1\ X0 \\ X1\ (k13_cqc_lang\ X0\ X2\ X4))) \Rightarrow ((X4 \in k24_qc_lang1\ X0\ X2) \vee (r3_cqc_the1 \\ X0\ X1\ (k13_cqc_lang\ X0\ X2\ X3)))))))))) \end{aligned}$$