

l42_cqc_the3

(TMTbibxsABtfUKfPaHokKzHCRbppiEZX4uL)

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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 $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k3_cqc_lang : \iota \Rightarrow \iota$ be given. Let $r5_cqc_the3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_cqc_the3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_cqc_the1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow (r3_cqc_the1 X0 (k6_domain_1 (k3_cqc_lang X0) X1) X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (k3_cqc_lang X0)))) \Rightarrow ((r3_cqc_the1 X0 X3 (k7_cqc_lang X0 X1 X2)) \Leftrightarrow ((r3_cqc_the1 X0 X3 X1) \wedge (r3_cqc_the1 X0 X3 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (k3_cqc_lang X0)))) \Rightarrow (((r5_cqc_the3 X0 X1 X2) \wedge (r3_cqc_the1 X0 X3 X1)) \Rightarrow (r3_cqc_the1 X0 X3 X2)))))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow & (\forall X1.(m2_subset_1\ X1\ (k9_qc_lang1 \\ & X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1 \\ & X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1 \\ & (k3_cqc_lang\ X0))) \Rightarrow ((r3_cqc_the1\ X0\ X3\ (k7_cqc_lang\ X0\ X1\ X2)) \Rightarrow \\ & ((r3_cqc_the1\ X0\ X3\ X1) \wedge (r3_cqc_the1\ X0\ X3\ X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (\neg v1_xboole_0\ (k3_cqc_lang\ X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_qc_lang1\ X0) \wedge ((m1_subset_1 \\ X1\ (k3_cqc_lang\ X0)) \wedge (m1_subset_1\ X2\ (k3_cqc_lang\ X0)))) \Rightarrow (m2_subset_1 \\ (k7_cqc_lang\ X0\ X1\ X2)\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0\ X0) \wedge (m1_subset_1\ X1\ X0)) \Rightarrow \\ (m1_subset_1\ (k6_domain_1\ X0\ X1)\ (k1_zfmisc_1\ X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (m1_subset_1\ (k3_cqc_lang\ X0)\ (k1_zfmisc_1\ (k9_qc_lang1\ X0))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow & (\forall X1.(m2_subset_1\ X1\ (k9_qc_lang1 \\ & X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1 \\ & X0)\ (k3_cqc_lang\ X0)) \Rightarrow ((r1_cqc_the3\ X0\ X1\ X2) \Leftrightarrow (r3_cqc_the1\ X0 \\ & (k6_domain_1\ (k3_cqc_lang\ X0)\ X1\ X2)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (v1_xboole_0\ X1)) \quad (11)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow & (\forall X1.(m2_subset_1\ X1\ (k9_qc_lang1 \\ & X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1 \\ & X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X3.(m2_subset_1\ X3\ (k9_qc_lang1 \\ & X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X4.(m2_subset_1\ X4\ (k9_qc_lang1 \\ & X0)\ (k3_cqc_lang\ X0)) \Rightarrow (((r5_cqc_the3\ X0\ X1\ X2) \wedge (r5_cqc_the3\ X0 \\ & X3\ X4)) \Rightarrow (r1_cqc_the3\ X0\ (k7_cqc_lang\ X0\ X1\ X3)\ (k7_cqc_lang\ X0\ X2 \\ & X4)))))) \end{aligned}$$