

t51_cqc_the3

(TMbA2feqNDMAhv1heXm7MoG8GxbF5qpV5tV)

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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 $r7_cqc_the3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_cqc_the1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow ((r7_cqc_the3 X0 X1 X2) \Leftrightarrow ((v2_cqc_the1 (\\ k8_cqc_lang X0 X1 X2) X0) \wedge (v2_cqc_the1 (k8_cqc_lang X0 X2 X1) X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (((v2_cqc_the1 (k8_cqc_lang X0 X1 X2) X0) \wedge \\ (v2_cqc_the1 (k8_cqc_lang X0 X2 X3) X0)) \Rightarrow (v2_cqc_the1 (k8_cqc_lang \\ X0 X1 X3) X0)))))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (((r7_cqc_the3 X0 X1 X2) \wedge (r7_cqc_the3 X0 \\ X2 X3)) \Rightarrow (r7_cqc_the3 X0 X1 X3)))))) \end{aligned}$$