

t30_cqc_the3
(TMZWxQBC3WYj8JoER6paJHBwqa2o6s74vT6)

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

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\ (k3_cqc_lang X0))) \Rightarrow (((r3_cqc_the1 X0 X3 X1) \wedge (r3_cqc_the1 X0 (\\ k6_domain_1 (k3_cqc_lang X0) X1) X2)) \Rightarrow (r3_cqc_the1 X0 X3 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow ((r5_cqc_the3 X0 X1 X2) \Leftrightarrow ((r1_cqc_the3 X0 \\ X1 X2) \wedge (r1_cqc_the3 X0 X2 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow ((r1_cqc_the3 X0 X1 X2) \Leftrightarrow (r3_cqc_the1 X0 \\ (k6_domain_1 (k3_cqc_lang X0) X1) X2)))))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\ (k3_cqc_lang X0)) \Rightarrow (((r5_cqc_the3 X0 X1 X2) \wedge (r3_cqc_the1 X0 X3 \\ X1)) \Rightarrow (r3_cqc_the1 X0 X3 X2)))))) \end{aligned}$$