

t53_procal_1 (TMLtxvGDpXkyCByVLav- tYUe9YLCupNmA44Q)

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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 $k8_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_cqc_the1 : \iota \Rightarrow \iota$ be given. Let $k9_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k6_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (k8_cqc_lang X0 (k8_cqc_lang X0 X1 X2) (k8_cqc_lang \\ X0 (k8_cqc_lang X0 X3 X2) (k8_cqc_lang X0 (k9_cqc_lang X0 X1 X3) X2)) \in \\ k4_cqc_the1 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (((k8_cqc_lang X0 X1 (k8_cqc_lang X0 X2 X3) \in \\ k4_cqc_the1 X0) \wedge ((X2 \in k4_cqc_the1 X0) \wedge (X1 \in k4_cqc_the1 X0))) \Rightarrow \\ (X3 \in k4_cqc_the1 X0)))))) \end{aligned} \tag{2}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (k9_cqc_lang X0 X1 X2 = k8_cqc_lang X0 (k6_cqc_lang \\ X0 X1) X2))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k3_cqc_lang X0)) \quad (5)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k9_qc_lang1 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0) \wedge ((m1_subset_1 \\ & X1 (k3_cqc_lang X0)) \wedge (m1_subset_1 X2 (k3_cqc_lang X0)))) \Rightarrow (m2_subset_1 \\ & (k8_cqc_lang X0 X1 X2) (k9_qc_lang1 X0) (k3_cqc_lang X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k3_cqc_lang \\ & X0))) \Rightarrow (m2_subset_1 (k6_cqc_lang X0 X1) (k9_qc_lang1 X0) (k3_cqc_lang \\ & X0)) \end{aligned} \quad (8)$$

Assume the following.

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

Theorem 1

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\ & X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 \\ & X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 \\ & X0) (k3_cqc_lang X0)) \Rightarrow (((k8_cqc_lang X0 X1 X2 \in k4_cqc_the1 X0) \wedge \\ & (k8_cqc_lang X0 X3 X2 \in k4_cqc_the1 X0)) \Rightarrow (k8_cqc_lang X0 (k9_qc_lang \\ & X0 X1 X3) X2 \in k4_cqc_the1 X0)))))) \end{aligned}$$