

t52_procal_1 (TMVEaxLdUHxBMp- KMGVe4mx1xvMf5L1pM6gx)

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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 $k7_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow & (\forall X1.(m2_subset_1\ X1\ (k9_qc_lang1 \\ & X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1 \\ & X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X3.(m2_subset_1\ X3\ (k9_qc_lang1 \\ & X0)\ (k3_cqc_lang\ X0)) \Rightarrow (k8_cqc_lang\ X0\ (k8_cqc_lang\ X0\ X1\ X2)\ (k8_cqc_lang \\ & X0\ (k8_cqc_lang\ X0\ X1\ X3)\ (k8_cqc_lang\ X0\ X1\ (k7_cqc_lang\ X0\ X2\ X3)))) \in \\ & k4_cqc_the1\ X0)))) \end{aligned} \tag{1}$$

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.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (\neg v1_xboole_0\ (k3_cqc_lang\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (\neg v1_xboole_0\ (k9_qc_lang1\ X0)) \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1_qc_lang1 X0) \wedge ((m1_subset_1 \\ & X1 (k3_cqc_lang X0)) \wedge (m1_subset_1 X2 (k3_cqc_lang X0)))) \Rightarrow (m2_subset_1 \\ & (k8_cqc_lang X0 X1 X2) (k9_qc_lang1 X0) (k3_cqc_lang X0)) \end{aligned} \quad (6)$$

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.

$$\begin{aligned} & \forall X0. (m1_qc_lang1 X0) \Rightarrow (m1_subset_1 (k3_cqc_lang X0) (k1_zfmisc.1 \\ & (k9_qc_lang1 X0))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0. (m1_qc_lang1 X0) \Rightarrow (\forall X1. (m2_subset_1 X1 (k9_qc_lang1 \\ & X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2. (m2_subset_1 X2 (k9_qc_lang1 \\ & X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3. (m2_subset_1 X3 (k9_qc_lang1 \\ & X0) (k3_cqc_lang X0)) \Rightarrow (((k8_cqc_lang X0 X1 X2 \in k4_cqc_the1 X0) \wedge \\ & (k8_cqc_lang X0 X1 X3 \in k4_cqc_the1 X0)) \Rightarrow (k8_cqc_lang X0 X1 (k7_cqc_lang \\ & X0 X2 X3) \in k4_cqc_the1 X0)))))) \end{aligned}$$