

t26_qc_lang2
(TMH23kuaPP4L6EDH4n78XGpkno4cjXmMgXk)

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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 $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k9_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k2_qc_lang1 \\ & X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k2_qc_lang1 \\ & X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k2_qc_lang1 \\ & X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (k9_qc_lang1 \\ & X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (k9_qc_lang1 X0)) \Rightarrow (\forall X6. \\ & (m2_subset_1 X6 (k2_qc_lang1 X0) (k3_qc_lang1 X0)) \Rightarrow ((k9_qc_lang2 \\ & X0 X1 X2 X3 X4 = k5_qc_lang2 X0 X6 X5) \Rightarrow ((X1 = X6) \wedge (k7_qc_lang2 X0 X2 \\ & X3 X4 = X5)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k2_qc_lang1 \\ & X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k2_qc_lang1 \\ & X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k2_qc_lang1 \\ & X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (k9_qc_lang1 \\ & X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (k9_qc_lang1 X0)) \Rightarrow ((k7_qc_lang2 \\ & X0 X1 X2 X4 = k5_qc_lang2 X0 X3 X5) \Rightarrow ((X1 = X3) \wedge (k5_qc_lang2 X0 X2 X4 = \\ & X5)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k9_qc_lang1 \\ X0)) \Rightarrow ((k6_qc_lang2 X0 X1 X2 X3 = k15_qc_lang1 X0 X1 (k15_qc_lang1 \\ X0 X2 X3)) \wedge (k7_qc_lang2 X0 X1 X2 X3 = k5_qc_lang2 X0 X1 (k5_qc_lang2 \\ X0 X2 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k3_qc_lang1 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0) \wedge ((m1_subset_1 \\ X1 (k3_qc_lang1 X0)) \wedge (m1_subset_1 X2 (k9_qc_lang1 X0)))) \Rightarrow (m1_subset_1 \\ (k5_qc_lang2 X0 X1 X2) (k9_qc_lang1 X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (m1_subset_1 (k3_qc_lang1 X0) (k1_zfmisc_1 \\ (k2_qc_lang1 X0))) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \Rightarrow (v1_xboole_0 X1)) \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (k9_qc_lang1 X0)) \Rightarrow (\forall X6. \\ (m2_subset_1 X6 (k2_qc_lang1 X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X7. \\ (m2_subset_1 X7 (k2_qc_lang1 X0) (k3_qc_lang1 X0)) \Rightarrow ((k9_qc_lang2 \\ X0 X1 X2 X3 X4 = k7_qc_lang2 X0 X6 X7 X5) \Rightarrow ((X1 = X6) \wedge ((X2 = X7) \wedge (k5_qc_lang2 \\ X0 X3 X4 = X5)))))))))) \end{aligned}$$