

t24_qc_lang2
(TMJjX9Eixs3kLbcBRXEwo2GGUHhm84twqF_x)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ 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 $k9_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (\forall X3. \\ & (m2_subset_1 X3 (k2_qc_lang1 X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X4. \\ & (m2_subset_1 X4 (k2_qc_lang1 X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X5. \\ & (m2_subset_1 X5 (k2_qc_lang1 X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X6. \\ & (m2_subset_1 X6 (k2_qc_lang1 X0) (k3_qc_lang1 X0)) \Rightarrow ((k7_qc_lang2 \\ & X0 X3 X5 X1 = k7_qc_lang2 X0 X4 X6 X2) \Rightarrow ((X3 = X4) \wedge ((X5 = X6) \wedge (X1 = X2)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k2_qc_lang1 \\ & X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k2_qc_lang1 \\ & X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k9_qc_lang1 \\ & X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (k9_qc_lang1 X0)) \Rightarrow ((k5_qc_lang2 \\ & X0 X1 X3 = k5_qc_lang2 X0 X2 X4) \Rightarrow ((X1 = X2) \wedge (X3 = X4)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (4)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1_qc_lang1 X0)\wedge((m1_subset_1 X1 (k3_qc_lang1 X0))\wedge((m1_subset_1 X2 (k3_qc_lang1 X0))\wedge(m1_subset_1 X3 (k9_qc_lang1 X0)))))\Rightarrow(m1_subset_1 (k7_qc_lang2 X0 X1 X2 X3) (k9_qc_lang1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0)\wedge((m1_subset_1 X1 (k3_qc_lang1 X0))\wedge(m1_subset_1 X2 (k9_qc_lang1 X0))))\Rightarrow(m1_subset_1 (k5_qc_lang2 X0 X1 X2) (k9_qc_lang1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(m1_subset_1 (k3_qc_lang1 X0) (k1_zfmisc_1 (k2_qc_lang1 X0))) \quad (8)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(\forall X1.(m2_subset_1 X1 (k2_qc_lang1 X0) (k3_qc_lang1 X0))\Rightarrow(\forall X2.(m2_subset_1 X2 (k2_qc_lang1 X0) (k3_qc_lang1 X0))\Rightarrow(\forall X3.(m2_subset_1 X3 (k2_qc_lang1 X0) (k3_qc_lang1 X0))\Rightarrow(\forall X4.(m1_subset_1 X4 (k9_qc_lang1 X0))\Rightarrow(k9_qc_lang2 X0 X1 X2 X3 X4 = k5_qc_lang2 X0 X1 (k7_qc_lang2 X0 X2 X3 X4)))))) \quad (9)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(\forall X1.(m2_subset_1 X1 (k2_qc_lang1 X0) (k3_qc_lang1 X0))\Rightarrow(\forall X2.(m2_subset_1 X2 (k2_qc_lang1 X0) (k3_qc_lang1 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (k9_qc_lang1 X0))\Rightarrow(k7_qc_lang2 X0 X1 X2 X3 = k5_qc_lang2 X0 X1 (k5_qc_lang2 X0 X2 X3)))))) \quad (10)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1 \\ & \quad X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0)) \Rightarrow (\forall X3. \\ & \quad (m2_subset_1\ X3\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow (\forall X4. \\ & \quad (m2_subset_1\ X4\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow (\forall X5. \\ & \quad (m2_subset_1\ X5\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow (\forall X6. \\ & \quad (m2_subset_1\ X6\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow (\forall X7. \\ & \quad (m2_subset_1\ X7\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow (\forall X8. \\ & \quad (m2_subset_1\ X8\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow ((k9_qc_lang2 \\ & \quad X0\ X3\ X5\ X7\ X1 = k9_qc_lang2\ X0\ X4\ X6\ X8\ X2) \Rightarrow ((X3 = X4) \wedge ((X5 = X6) \wedge ((X7 = \\ & \quad X8) \wedge (X1 = X2))))))))))))) \end{aligned}$$