

t94_qc_lang2
(TMHutWTf9ynK7RoQGpWQEnbK3RRBRAdX2zF)

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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 $k12_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $v2_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $v3_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k8_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k10_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k21_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k22_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k14_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\neg(X1 \neq k12_qc_lang1 X0) \wedge (\neg v2_qc_lang1 X1 X0) \wedge (\neg v3_qc_lang1 \\ X1 X0) \wedge (\neg v4_qc_lang1 X1 X0) \wedge (\neg v5_qc_lang1 X1 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 k5_numbers) \Rightarrow \\ (\forall X2.(m2_subset_1 X2 (k6_qc_lang1 X0) (k8_qc_lang1 X0 X1)) \Rightarrow \\ (\forall X3.((v3_card_1 X3 X1) \wedge (m2_finseq_1 X3 (k2_qc_lang1 X0))) \Rightarrow \\ (k15_qc_lang2 X0 (k10_qc_lang1 X0 X2 X3) = k1_tarski (k10_qc_lang1 \\ X0 X2 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (k15_qc_lang2 X0 (k12_qc_lang1 X0) = k1_tarski (k12_qc_lang1 X0)) \quad (3)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0)) \Rightarrow ((v5_qc_lang1\ X1\ X0) \Rightarrow (X1 = k15_qc_lang1\ X0\ (k21_qc_lang1\ X0\ X1)\ (k22_qc_lang1\ X0\ X1)))) \quad (4)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0)) \Rightarrow ((r1_qc_lang2\ X0\ X1\ X2) \Rightarrow (r3_qc_lang2\ X0\ X1\ X2)))) \quad (5)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0)) \Rightarrow (\forall X3.(m2_subset_1\ X3\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow ((r1_qc_lang2\ X0\ X1\ (k15_qc_lang1\ X0\ X3\ X2)) \Leftrightarrow (X1 = X2)))) \quad (6)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0)) \Rightarrow (\forall X3.(m1_subset_1\ X3\ (k9_qc_lang1\ X0)) \Rightarrow ((r1_qc_lang2\ X0\ X1\ (k14_qc_lang1\ X0\ X2\ X3)) \Leftrightarrow ((X1 = X2) \vee (X1 = X3)))))) \quad (7)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0)) \Rightarrow ((r1_qc_lang2\ X0\ X1\ (k13_qc_lang1\ X0\ X2)) \Leftrightarrow (X1 = X2)))) \quad (8)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0)) \Rightarrow ((v4_qc_lang1\ X1\ X0) \Rightarrow (X1 = k14_qc_lang1\ X0\ (k19_qc_lang1\ X0\ X1)\ (k20_qc_lang1\ X0\ X1)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0) \wedge (m1_subset_1\ X1\ (k9_qc_lang1\ X0))) \Rightarrow (m1_subset_1\ (k22_qc_lang1\ X0\ X1)\ (k9_qc_lang1\ X0)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0) \wedge (m1_subset_1\ X1\ (k9_qc_lang1\ X0))) \Rightarrow (m2_subset_1\ (k21_qc_lang1\ X0\ X1)\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k9_qc_lang1\ X0)))\Rightarrow(m1_subset_1\ (k20_qc_lang1\ X0\ X1)\ (k9_qc_lang1\ X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k9_qc_lang1\ X0)))\Rightarrow(m1_subset_1\ (k19_qc_lang1\ X0\ X1)\ (k9_qc_lang1\ X0)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k9_qc_lang1\ X0)))\Rightarrow(m1_subset_1\ (k18_qc_lang1\ X0\ X1)\ (k9_qc_lang1\ X0)) \quad (14)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow((v3_qc_lang1\ X1\ X0)\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\Rightarrow((X2 = k18_qc_lang1\ X0\ X1)\Leftrightarrow(X1 = k13_qc_lang1\ X0\ X2)))))) \quad (15)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(\forall X2.(X2 = k15_qc_lang2\ X0\ X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow(\exists X4.(m1_subset_1\ X4\ (k9_qc_lang1\ X0))\wedge((X4 = X3)\wedge(r2_qc_lang2\ X0\ X4\ X1)))))) \quad (16)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\Rightarrow((r3_qc_lang2\ X0\ X1\ X2)\Leftrightarrow((r2_qc_lang2\ X0\ X1\ X2)\wedge(X1\neq X2)))))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1_tarski\ X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(X2 = X0)) \quad (18)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow((v2_qc_lang1\ X1\ X0)\Leftrightarrow(\exists X2.(m1_subset_1\ X2\ k5_numbers)\wedge(\exists X3.(m2_subset_1\ X3\ (k6_qc_lang1\ X0)\ (k8_qc_lang1\ X0\ X2))\wedge(\exists X4.((v3_card_1\ X4\ X2)\wedge(m2_finseq_1\ X4\ (k2_qc_lang1\ X0))\wedge(X1 = k10_qc_lang1\ X0\ X3\ X4)))))) \quad (19)$$

Theorem 1

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(((X1 = k12_qc_lang1\ X0)\vee(v2_qc_lang1\ X1\ X0))\Leftrightarrow(k15_qc_lang2\ X0\ X1 = k1_tarski\ X1)))$$