

l79_substut1 (TMFfNXD- cwjtnu2U8pFaCU4U7oBv1oKNPYVE)

October 27, 2020

Let $m1_qc.lan\!g1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_qc.lan\!g1 : \iota \Rightarrow \iota$ be given. Let $k8_qc.lan\!g1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_qc.lan\!g1 : \iota \Rightarrow \iota$ 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 $k2_qc.lan\!g1 : \iota \Rightarrow \iota$ be given. Let $k16_qc.lan\!g1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_cqc.lan\!g : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_qc.lan\!g1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_qc.lan\!g1 : \iota \Rightarrow \iota$ be given. Let $v2_qc.lan\!g1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X0 \\ & k5_numbers) \wedge ((m1_qc.lan\!g1 X1) \wedge ((m1_subset_1 X2 (k8_qc.lan\!g1 \\ & X1 X0)) \wedge ((v5_relat_1 X3 (k3_qc.lan\!g1 X1)) \wedge ((v3_card_1 X3 X0) \wedge \\ & (m1_finseq_1 X3 (k2_qc.lan\!g1 X1)))))) \Rightarrow (k4_cqc.lan\!g X0 X1 X2 X3 = \\ & k10_qc.lan\!g1 X1 X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge (m1_qc.lan\!g1 X1)) \Rightarrow (\neg v1_xboole_0 (k8_qc.lan\!g1 X1 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1 X0)\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow (m1_subset_1 (k8_qc_lang1 X0 X1) (k1_zfmisc_1 (k6_qc_lang1 X0))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0)\wedge((m1_subset_1 X1 (k6_qc_lang1 X0))\wedge(m1_finseq_1 X2 (k2_qc_lang1 X0))))\Rightarrow(m1_subset_1 (k10_qc_lang1 X0 X1 X2) (k9_qc_lang1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k9_qc_lang1 X0))\Rightarrow((v2_qc_lang1 X1 X0)\Rightarrow(\forall X2.(m1_subset_1 X2 (k6_qc_lang1 X0))\Rightarrow((X2 = k16_qc_lang1 X0 X1)\Leftrightarrow(\exists X3.(m1_subset_1 X3 k5_numbers)\wedge(\exists X4.((v3_card_1 X4 X3)\wedge(m2_finseq_1 X4 (k2_qc_lang1 X0))))\wedge(\exists X5.(m2_subset_1 X5 (k6_qc_lang1 X0) (k8_qc_lang1 X0 X3))\wedge((X2 = X5)\wedge(X1 = k10_qc_lang1 X0 X5 X4)))))))))) \quad (8)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k9_qc_lang1 X0))\Rightarrow((v2_qc_lang1 X1 X0)\Leftrightarrow(\exists X2.(m1_subset_1 X2 k5_numbers)\wedge(\exists X3.(m2_subset_1 X3 (k6_qc_lang1 X0) (k8_qc_lang1 X0 X2))\wedge(\exists X4.((v3_card_1 X4 X2)\wedge(m2_finseq_1 X4 (k2_qc_lang1 X0))\wedge(X1 = k10_qc_lang1 X0 X3 X4))))))) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (10)$$

Theorem 1

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 k5_numbers)\Rightarrow(\forall X2.(m2_subset_1 X2 (k6_qc_lang1 X0) (k8_qc_lang1 X0 X1))\Rightarrow(\forall X3.((v5_relat_1 X3 (k3_qc_lang1 X0))\wedge((v3_card_1 X3 X1)\wedge(m2_finseq_1 X3 (k2_qc_lang1 X0))))\Rightarrow(k16_qc_lang1 X0 (k4_cqc_lang X1 X0 X2 X3) = X2))))))$$