

t31_substut1 (TMUfSZ- mUA75XLdy4knqMnUNQBpSvWBaEPWF)

October 27, 2020

Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16_substut1 : \iota \Rightarrow \iota$ be given. Let $k19_substut1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k37_substut1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k21_substut1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_substut1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k28_substut1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k29_substut1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k16_substut1 \\ X0)) \Rightarrow ((v6_substut1 X1 X0) \Rightarrow (k37_substut1 X0 X1 = k14_qc_lang1 X0 \\ (k37_substut1 X0 (k28_substut1 X0 X1)) (k37_substut1 X0 (k29_substut1 \\ X0 X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k16_substut1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k16_substut1 X0)) \Rightarrow ((k19_substut1 \\ X0 X1 = k19_substut1 X0 X2) \Rightarrow (k29_substut1 X0 (k21_substut1 X0 X1 \\ X2) = X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k16_substut1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k16_substut1 X0)) \Rightarrow ((k19_substut1 \\ X0 X1 = k19_substut1 X0 X2) \Rightarrow (k28_substut1 X0 (k21_substut1 X0 X1 \\ X2) = X1)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k16_substut1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k16_substut1 X0)) \Rightarrow ((k19_substut1 \\ X0 X1 = k19_substut1 X0 X2) \Rightarrow (v6_substut1 (k21_substut1 X0 X1 X2) \\ X0)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1_qc_lang1\ X0)\wedge((m1_subset_1 \\ & X1\ (k16_subst1\ X0))\wedge(m1_subset_1\ X2\ (k16_subst1\ X0))))\Rightarrow(\quad (5) \\ & m1_subset_1\ (k21_subst1\ X0\ X1\ X2)\ (k16_subst1\ X0)) \end{aligned}$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k16_subst1 \\ & X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k16_subst1\ X0))\Rightarrow((k19_subst1 \\ & X0\ X1 = k19_subst1\ X0\ X2)\Rightarrow(k37_subst1\ X0\ (k21_subst1\ X0\ X1 \\ & X2) = k14_qc_lang1\ X0\ (k37_subst1\ X0\ X1)\ (k37_subst1\ X0\ X2)))))) \end{aligned}$$