

t10_qc_lang2
(TMTXqGiV4arJEeEidQtn7EoohKrjqibusp7)

October 27, 2020

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 $k3_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k13_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow ((k19_qc_lang1 \\ X0 (k14_qc_lang1 X0 X1 X2) = X1) \wedge (k20_qc_lang1 X0 (k14_qc_lang1 \\ X0 X1 X2) = X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 X0)) \Rightarrow (k18_qc_lang1 X0 (k13_qc_lang1 X0 X1) = X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0) \wedge ((m1_subset_1 X1 (k9_qc_lang1 X0)) \wedge (m1_subset_1 X2 (k9_qc_lang1 X0)))) \Rightarrow (m1_subset_1 (k14_qc_lang1 X0 X1 X2) (k9_qc_lang1 X0)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k9_qc_lang1 X0))) \Rightarrow (m1_subset_1 (k13_qc_lang1 X0 X1) (k9_qc_lang1 X0)) \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (k3_qc_lang2 \\ X0 X1 X2 = k13_qc_lang1 X0 (k14_qc_lang1 X0 (k13_qc_lang1 X0 X1) (\\ k13_qc_lang1 X0 X2)))))) \end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1 \\ & \quad X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0)) \Rightarrow (\forall X3. \\ & \quad (m1_subset_1\ X3\ (k9_qc_lang1\ X0)) \Rightarrow (\forall X4.(m1_subset_1\ X4 \\ & \quad (k9_qc_lang1\ X0)) \Rightarrow ((k3_qc_lang2\ X0\ X1\ X2 = k3_qc_lang2\ X0\ X3\ X4) \Rightarrow \\ & \quad ((X1 = X3) \wedge (X2 = X4)))))) \end{aligned}$$