

t21_substut1 (TM-
SWJFZr2T3n6Q2JJotbGt1n3RnCWpHNBjh)

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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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_substut1 : \iota \Rightarrow \iota$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $m1_substut1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_substut1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k31_substut1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k24_substut1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k22_substut1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_substut1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1_qc_lang1 X0) \wedge ((m1_subset_1 \\ & X1 (k2_zfmisc_1 (k16_substut1 X0) (k3_qc_lang1 X0))) \wedge (m1_substut1 \\ & X2 X0 X1))) \Rightarrow (m1_subset_1 (k24_substut1 X0 X1 X2) (k16_substut1 \\ & X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k2_zfmisc_1 \\ & (k16_substut1 X0) (k3_qc_lang1 X0)))) \Rightarrow (m1_subset_1 (k22_substut1 \\ & X0 X1) (k16_substut1 X0)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_qc_lang1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k16_substut1 \\ & X0)) \Rightarrow ((v7_substut1 X1 X0) \Rightarrow (\forall X2. (m1_subset_1 X2 (k16_substut1 \\ & X0)) \Rightarrow ((X2 = k31_substut1 X0 X1) \Leftrightarrow (\exists X3. (m1_subset_1 X3 (k2_zfmisc_1 \\ & (k16_substut1 X0) (k3_qc_lang1 X0))) \wedge (\exists X4. (m1_substut1 \\ & X4 X0 X3) \wedge ((X1 = k24_substut1 X0 X3 X4) \wedge ((k22_substut1 X0 X3 = X2) \wedge \\ & (v3_substut1 X3 X0)))))))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_qc_lang1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k16_substut1 \\ & X0)) \Rightarrow ((v7_substut1 X1 X0) \Leftrightarrow (\exists X2. (m1_subset_1 X2 (k2_zfmisc_1 \\ & (k16_substut1 X0) (k3_qc_lang1 X0))) \wedge (\exists X3. (m1_substut1 \\ & X3 X0 X2) \wedge ((X1 = k24_substut1 X0 X2 X3) \wedge (v3_substut1 X2 X0)))))) \end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k2_zfmisc_1 \\ (k16_subst1\ X0)\ (k3_qc_lang1\ X0))) \Rightarrow (\forall X2.(m1_subst1 \\ X2\ X0\ X1) \Rightarrow ((v3_subst1\ X1\ X0) \Rightarrow (k31_subst1\ X0\ (k24_subst1 \\ X0\ X1\ X2) = k22_subst1\ X0\ X1)))) \end{aligned}$$