

t45_qc_lang3

(TMLXQUVe4Uab1iq25mSvZoDJfcX3EyEzmLz)

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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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $v1_qc_lang2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_qc_lang3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v3_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k18_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_qc_lang2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_qc_lang1 X0)))) \Rightarrow ((v4_qc_lang1 X1 X0) \Rightarrow (k4_qc_lang3 X0 X2 X1 = \\ k4_subset_1 X2 (k4_qc_lang3 X0 X2 (k19_qc_lang1 X0 X1)) (k4_qc_lang3 \\ X0 X2 (k20_qc_lang1 X0 X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_qc_lang1 X0)))) \Rightarrow ((v3_qc_lang1 X1 X0) \Rightarrow (k4_qc_lang3 X0 X2 X1 = \\ k4_qc_lang3 X0 X2 (k18_qc_lang1 X0 X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow ((v1_qc_lang2 X1 X0) \Rightarrow ((v2_qc_lang2 X1 X0) \wedge ((v3_qc_lang1 \\ X1 X0) \wedge ((v4_qc_lang1 (k18_qc_lang1 X0 X1) X0) \wedge ((v3_qc_lang1 (\\ k19_qc_lang1 X0 (k18_qc_lang1 X0 X1)) X0) \wedge (v3_qc_lang1 (k20_qc_lang1 \\ X0 (k18_qc_lang1 X0 X1)) X0)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. ((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k9_qc_lang1 X0))) \Rightarrow (m1_subset_1 (k20_qc_lang1 X0 X1) (k9_qc_lang1 X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k9_qc_lang1\ X0)))\Rightarrow(m1_subset_1\ (k19_qc_lang1\ X0\ X1)\ (k9_qc_lang1\ X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k9_qc_lang1\ X0)))\Rightarrow(m1_subset_1\ (k18_qc_lang1\ X0\ X1)\ (k9_qc_lang1\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(k11_qc_lang2\ X0\ X1 = k18_qc_lang1\ X0\ (k20_qc_lang1\ X0\ (k18_qc_lang1\ X0\ X1)))) \quad (7)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(k10_qc_lang2\ X0\ X1 = k18_qc_lang1\ X0\ (k19_qc_lang1\ X0\ (k18_qc_lang1\ X0\ X1)))) \quad (8)$$

Theorem 1

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(\forall X2.((\neg v1_xboole_0\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_qc_lang1\ X0))))\Rightarrow((v1_qc_lang2\ X1\ X0)\Rightarrow(k4_qc_lang3\ X0\ X2\ X1 = k4_subset_1\ X2\ (k4_qc_lang3\ X0\ X2\ (k10_qc_lang2\ X0\ X1))\ (k4_qc_lang3\ X0\ X2\ (k11_qc_lang2\ X0\ X1)))))))$$