

t32_qc_lang2
(TMJuHAY7bfWeKfmC1UBCyMUC2YUXiVu6AMA)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k18_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 X0)) \Rightarrow (k18_qc_lang1 X0 (k13_qc_lang1 X0 X1) = X1)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k3_qc_lang1 X0)) \quad (3)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (m1_subset_1 (k3_qc_lang1 X0) (k1_zfmisc_1 (k2_qc_lang1 X0))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0) \wedge ((m1_subset_1 X1 (k3_qc_lang1 X0)) \wedge (m1_subset_1 X2 (k9_qc_lang1 X0)))) \Rightarrow (m1_subset_1 (k15_qc_lang1 X0 X1 X2) (k9_qc_lang1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k9_qc_lang1 X0))) \Rightarrow (m1_subset_1 (k13_qc_lang1 X0 X1) (k9_qc_lang1 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m2_subset_1\ X1\ (k2_qc_lang1 \\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1 \\ X0)) \Rightarrow (k5_qc_lang2\ X0\ X1\ X2 = k13_qc_lang1\ X0\ (k15_qc_lang1\ X0\ X1 \\ (k13_qc_lang1\ X0\ X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ X0)) \Rightarrow (v1_xboole_0\ X1)) \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m2_subset_1\ X1\ (k2_qc_lang1 \\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1 \\ X0)) \Rightarrow (k18_qc_lang1\ X0\ (k5_qc_lang2\ X0\ X1\ X2) = k15_qc_lang1\ X0\ X1 \\ (k13_qc_lang1\ X0\ X2)))) \end{aligned}$$