

t41_qc_lang3

(TMcEFjn49p8ZAJDwWrzwB9hCjeuuoN9NeaF)

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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 $v4_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k19_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v2_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_qc_lang3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v5_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k22_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_qc_lang1 X0)))) \Rightarrow ((k4_qc_lang3 \\
& X0 X1 (k12_qc_lang1 X0) = k1_xboole_0) \wedge ((\forall X2.(m1_subset_1 \\
& X2 (k9_qc_lang1 X0)) \Rightarrow ((v2_qc_lang1 X2 X0) \Rightarrow (k4_qc_lang3 X0 X1 X2 = \\
& k1_qc_lang3 X0 (k17_qc_lang1 X0 X2) X1))) \wedge ((\forall X2.(m1_subset_1 \\
& X2 (k9_qc_lang1 X0)) \Rightarrow ((v3_qc_lang1 X2 X0) \Rightarrow (k4_qc_lang3 X0 X1 X2 = \\
& k4_qc_lang3 X0 X1 (k18_qc_lang1 X0 X2)))) \wedge ((\forall X2.(m1_subset_1 \\
& X2 (k9_qc_lang1 X0)) \Rightarrow ((v4_qc_lang1 X2 X0) \Rightarrow (k4_qc_lang3 X0 X1 X2 = \\
& k4_subset_1 X1 (k4_qc_lang3 X0 X1 (k19_qc_lang1 X0 X2)) (k4_qc_lang3 \\
& X0 X1 (k20_qc_lang1 X0 X2)))))) \wedge (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 \\
& X0)) \Rightarrow ((v5_qc_lang1 X2 X0) \Rightarrow (k4_qc_lang3 X0 X1 X2 = k4_qc_lang3 X0 \\
& X1 (k22_qc_lang1 X0 X2)))))))))
\end{aligned} \tag{1}$$

Theorem 1

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