

t14_cqc_sim1 (TMamNX- CRkUf4WQfQegvcqcjWCu9vQ7nmpB7)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $k7_cqc_sim1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_cqc_lang : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_cqc_lang : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_recdef_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k8_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k3_cqc_lang X0)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k3_cqc_lang X0))) \Rightarrow (m1_subset_1 (k7_cqc_sim1 X0 X1) k5_numbers) \quad (3)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (m2_subset_1 (k5_cqc_lang X0) (k9_qc_lang1 X0) (k3_cqc_lang X0)) \quad (4)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (m1_subset_1 (k3_cqc_lang X0) (k1_zfmisc_1 (k9_qc_lang1 X0))) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 \\
& X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow \\
& ((X2 = k7_cqc_sim1 X0 X1) \Leftrightarrow (\exists X3.((v1_funct_1 X3) \wedge ((v1_funct_2 \\
& X3 (k3_cqc_lang X0) k5_numbers) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k3_cqc_lang X0) k5_numbers)))))) \wedge ((X2 = k1_recdef_1 \\
& X3 X1) \wedge ((k1_recdef_1 X3 (k5_cqc_lang X0) = k6_numbers) \wedge (\forall X4. \\
& (m2_subset_1 X4 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow (\forall X5. \\
& (m2_subset_1 X5 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow (\forall X6. \\
& (m2_subset_1 X6 (k2_qc_lang1 X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X7. \\
& (m1_subset_1 X7 k5_numbers) \Rightarrow (\forall X8.((v5_relat_1 X8 (k3_qc_lang1 \\
& X0)) \wedge ((v3_card_1 X8 X7) \wedge (m2_finseq_1 X8 (k2_qc_lang1 X0)))))) \Rightarrow \\
& (\forall X9.(m2_subset_1 X9 (k6_qc_lang1 X0) (k8_qc_lang1 X0 X7)) \Rightarrow \\
& ((k1_recdef_1 X3 (k4_cqc_lang X7 X0 X9 X8) = k6_numbers) \wedge ((k1_recdef_1 \\
& X3 (k6_cqc_lang X0 X4) = k1_recdef_1 X3 X4) \wedge ((k1_recdef_1 X3 (k7_cqc_lang \\
& X0 X4 X5) = k2_nat_1 (k1_recdef_1 X3 X4) (k1_recdef_1 X3 X5)) \wedge (k1_recdef_1 \\
& X3 (k11_cqc_lang X0 X6 X4) = k2_nat_1 (k1_recdef_1 X3 X4) np_1))))))))))))) \\
& \hspace{15em} (6)
\end{aligned}$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \hspace{10em} (7)$$

Theorem 1

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (k7_cqc_sim1 X0 (k5_cqc_lang X0) = k6_numbers)$$