

t9_valuat_1
(TMah4K1HYdkM8tzxyyQ2i2q15rB1xdVjBHR)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k3_cqc_lang : \iota \Rightarrow \iota$ be given. Let $m1_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_margrel1 : \iota$ be given. Let $k8_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_margrel1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_cqc_lang : \iota \Rightarrow \iota$ be given. Let $k1_margrel1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_margrel1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ 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 $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k6_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k8_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_margrel1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given.

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m2_subset_1\ X1\ (k9_qc_lang1\ X0) \\
& \quad (k3_cqc_lang\ X0)) \Rightarrow (\forall X2.(\neg v1_xboole_0\ X2) \Rightarrow (\forall X3. \\
& (m1_valuat_1\ X3\ X0\ X2) \Rightarrow ((r2_funct_2\ (k2_valuat_1\ X0\ X2)\ k6_margrel1 \\
& \quad (k8_valuat_1\ X0\ X2\ X3\ (k5_cqc_lang\ X0))\ (k1_margrel1\ k6_margrel1 \\
& \quad (k2_valuat_1\ X0\ X2)\ k8_margrel1)) \wedge ((\forall X4.(m1_subset_1 \\
& \quad X4\ k5_numbers) \Rightarrow (\forall X5.((v5_relat_1\ X5\ (k3_qc_lang1\ X0)) \wedge \\
& \quad ((v3_card_1\ X5\ X4) \wedge (m2_finseq_1\ X5\ (k2_qc_lang1\ X0)))) \Rightarrow (\forall X6. \\
& \quad (m2_subset_1\ X6\ (k6_qc_lang1\ X0)\ (k8_qc_lang1\ X0\ X4)) \Rightarrow (r2_funct_2 \\
& \quad (k2_valuat_1\ X0\ X2)\ k6_margrel1\ (k8_valuat_1\ X0\ X2\ X3\ (k4_cqc_lang \\
& \quad X4\ X0\ X6\ X5))\ (k5_valuat_1\ X0\ X2\ X4\ X5\ (k7_valuat_1\ X0\ X2\ X4\ X3\ X6)))))) \wedge \\
& \quad ((\forall X4.(m2_subset_1\ X4\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow \\
& \quad (r2_funct_2\ (k2_valuat_1\ X0\ X2)\ k6_margrel1\ (k8_valuat_1\ X0\ X2 \\
& \quad X3\ (k6_cqc_lang\ X0\ X4))\ (k15_margrel1\ (k2_valuat_1\ X0\ X2)\ (k8_valuat_1 \\
& \quad X0\ X2\ X3\ X4)))) \wedge ((\forall X4.(m2_subset_1\ X4\ (k9_qc_lang1\ X0)\ (\\
& \quad k3_cqc_lang\ X0)) \Rightarrow (r2_funct_2\ (k2_valuat_1\ X0\ X2)\ k6_margrel1 \\
& \quad (k8_valuat_1\ X0\ X2\ X3\ (k7_cqc_lang\ X0\ X1\ X4))\ (k16_margrel1\ (k2_valuat_1 \\
& \quad X0\ X2)\ (k8_valuat_1\ X0\ X2\ X3\ X1)\ (k8_valuat_1\ X0\ X2\ X3\ X4)))) \wedge (\forall X4. \\
& \quad (m2_subset_1\ X4\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow (r2_funct_2 \\
& \quad (k2_valuat_1\ X0\ X2)\ k6_margrel1\ (k8_valuat_1\ X0\ X2\ X3\ (k11_cqc_lang \\
& \quad X0\ X4\ X1))\ (k3_valuat_1\ X0\ X2\ X4\ (k8_valuat_1\ X0\ X2\ X3\ X1))))))))) \\
& \hspace{15em} (1)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(\neg v1_xboole_0\ X1) \Rightarrow (\\
& \quad \forall X2.(m2_subset_1\ X2\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow \\
& \quad (\forall X3.(m1_valuat_1\ X3\ X0\ X1) \Rightarrow (r2_funct_2\ (k2_valuat_1\ X0 \\
& \quad X1)\ k6_margrel1\ (k8_valuat_1\ X0\ X1\ X3\ (k6_cqc_lang\ X0\ X2))\ (k15_margrel1 \\
& \quad (k2_valuat_1\ X0\ X1)\ (k8_valuat_1\ X0\ X1\ X3\ X2))))))
\end{aligned}$$