

t6_valuat_1
(TMHRrM5ivdv7hq8hfkBBZEsug3v6hZZT9hn)

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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 $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $m1_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k8_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k4_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k3_cqc_lang : \iota \Rightarrow \iota$ 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 $k6_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_margrel1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

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

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (m2_subset_1 (k5_cqc_lang X0) (k9_qc_lang1 X0) (k3_cqc_lang X0)) \quad (2)$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 k5_numbers) \Rightarrow \\
& \quad (\forall X2.(\neg v1_xboole_0 X2) \Rightarrow (\forall X3.((v5_relat_1 X3 (k3_qc_lang1 \\
& \quad X0)) \wedge ((v3_card_1 X3 X1) \wedge (m2_finseq_1 X3 (k2_qc_lang1 X0)))) \Rightarrow \\
& \quad (\forall X4.(m1_valuat_1 X4 X0 X2) \Rightarrow (\forall X5.(m2_subset_1 X5 \\
& \quad (k6_qc_lang1 X0) (k8_qc_lang1 X0 X1)) \Rightarrow (r2_funct_2 (k2_valuat_1 \\
& \quad X0 X2) k6_margrel1 (k8_valuat_1 X0 X2 X4 (k4_cqc_lang X1 X0 X5 X3)) \\
& \quad (k5_valuat_1 X0 X2 X1 X3 (k7_valuat_1 X0 X2 X1 X4 X5)))))))))
\end{aligned}$$