

t28_valuat_1

(TMLbj4pqjetkErgP2GFbppiJ7aibPLzAe83)

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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 $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $m2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ 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 $r1_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k24_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_margrel1 : \iota$ be given. Let $k8_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_margrel1 : \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (\\
 & \quad \forall X2.(m2_subset_1 X2 (k2_qc_lang1 X0) (k3_qc_lang1 X0)) \Rightarrow \\
 & \quad (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow \\
 & \quad (\forall X4.(m1_valuat_1 X4 X0 X1) \Rightarrow ((\neg X2 \in k24_qc_lang1 X0 X3) \Rightarrow \\
 & \quad (\forall X5.(m2_funct_2 X5 (k3_qc_lang1 X0) X1 (k2_valuat_1 \\
 & \quad X1)) \Rightarrow (\forall X6.(m2_funct_2 X6 (k3_qc_lang1 X0) X1 (k2_valuat_1 \\
 & \quad X0 X1)) \Rightarrow ((\forall X7.(m2_subset_1 X7 (k2_qc_lang1 X0) (k3_qc_lang1 \\
 & \quad X0)) \Rightarrow ((X2 \neq X7) \Rightarrow (k3_funct_2 (k3_qc_lang1 X0) X1 X6 X7 = k3_funct_2 \\
 & \quad (k3_qc_lang1 X0) X1 X5 X7))) \Rightarrow (k3_funct_2 (k2_valuat_1 X0 X1) k6_margrel1 \\
 & \quad (k8_valuat_1 X0 X1 X4 X3) X5 = k3_funct_2 (k2_valuat_1 X0 X1) k6_margrel1 \\
 & \quad (k8_valuat_1 X0 X1 X4 X3) X6))))))))))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (\\
 & \quad \forall X2.(m2_subset_1 X2 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow \\
 & \quad (\forall X3.(m1_valuat_1 X3 X0 X1) \Rightarrow (\forall X4.(m2_funct_2 X4 \\
 & \quad (k3_qc_lang1 X0) X1 (k2_valuat_1 X0 X1)) \Rightarrow ((r1_valuat_1 X0 X1 X2 \\
 & \quad X3 X4) \Leftrightarrow (k3_funct_2 (k2_valuat_1 X0 X1) k6_margrel1 (k8_valuat_1 \\
 & \quad X0 X1 X3 X2) X4 = k8_margrel1))))))
 \end{aligned}
 \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(\neg v1_xboole_0\ X1) \Rightarrow (\\ & \quad \forall X2.(m2_subset_1\ X2\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow \\ & \quad (\forall X3.(m2_funct_2\ X3\ (k3_qc_lang1\ X0)\ X1\ (k2_valuat_1\ X0 \\ & \quad X1)) \Rightarrow (\forall X4.(m2_subset_1\ X4\ (k9_qc_lang1\ X0)\ (k3_cqc_lang \\ & \quad X0)) \Rightarrow (\forall X5.(m1_valuat_1\ X5\ X0\ X1) \Rightarrow ((r1_valuat_1\ X0\ X1\ X4 \\ & X5\ X3) \Rightarrow ((X2 \in k24_qc_lang1\ X0\ X4) \vee (\forall X6.(m2_funct_2\ X6\ (k3_qc_lang1 \\ & X0)\ X1\ (k2_valuat_1\ X0\ X1)) \Rightarrow (\forall X7.(m2_subset_1\ X7\ (k2_qc_lang1 \\ & X0)\ (k3_qc_lang1\ X0)) \Rightarrow ((X2 \neq X7) \Rightarrow (k3_funct_2\ (k3_qc_lang1\ X0) \\ & X1\ X6\ X7 = k3_funct_2\ (k3_qc_lang1\ X0)\ X1\ X3\ X7))) \Rightarrow (r1_valuat_1\ X0 \\ & X1\ X4\ X5\ X6)))))))))) \end{aligned}$$