

t15_valuat_1

(TMYgDGNgmyasjghhkjMBCcTDJd9ZdYf2rvj)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k2_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_margrel1 : \iota$ be given. Let $k8_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k8_margrel1 : \iota$ be given. Let $k7_margrel1 : \iota$ be given. Let $v1_xboolean : \iota \Rightarrow o$ be given. Let $k3_xboolean : \iota \Rightarrow \iota$ be given. Let $k9_margrel1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_xboolean : \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (\\
 & \forall X2.(m2_funct_2 X2 (k3_qc_lang1 X0) X1 (k2_valuat_1 X0 X1)) \Rightarrow \\
 & (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow \\
 & (\forall X4.(m1_valuat_1 X4 X0 X1) \Rightarrow (k3_funct_2 (k2_valuat_1 X0 \\
 & X1) k6_margrel1 (k8_valuat_1 X0 X1 X4 (k7_cqc_lang X0 X3 (k6_cqc_lang \\
 & X0 X3))) X2 = k7_margrel1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(v1_xboolean X0) \Rightarrow (((X0 = k7_margrel1) \Rightarrow (k3_xboolean \\
 & X0 = k8_margrel1)) \wedge (((k3_xboolean X0 = k8_margrel1) \Rightarrow (X0 = k7_margrel1)) \wedge \\
 & (((X0 = k8_margrel1) \Rightarrow (k3_xboolean X0 = k7_margrel1)) \wedge ((k3_xboolean \\
 & X0 = k7_margrel1) \Rightarrow (X0 = k8_margrel1))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (\\ & \forall X2.(m2_funct_2 X2 (k3_qc_lang1 X0) X1 (k2_valuat_1 X0 X1)) \Rightarrow \\ & (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow \\ & (\forall X4.(m1_valuat_1 X4 X0 X1) \Rightarrow (k3_funct_2 (k2_valuat_1 X0 \\ & X1) k6_margrel1 (k8_valuat_1 X0 X1 X4 (k6_cqc_lang X0 X3)) X2 = k9_margrel1 \\ & (k3_funct_2 (k2_valuat_1 X0 X1) k6_margrel1 (k8_valuat_1 X0 X1 \\ & X4 X3) X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (k9_margrel1 X0 = k3_xboolean X0) \quad (5)$$

Assume the following.

$$k7_margrel1 = k1_xboolean \quad (6)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k3_cqc_lang X0)) \quad (7)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k9_qc_lang1 X0)) \quad (8)$$

Assume the following.

$$m1_subset_1 k7_margrel1 k6_margrel1 \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0) \wedge ((m1_subset_1 \\ & X1 (k3_cqc_lang X0)) \wedge (m1_subset_1 X2 (k3_cqc_lang X0)))) \Rightarrow (m2_subset_1 \\ & (k7_cqc_lang X0 X1 X2) (k9_qc_lang1 X0) (k3_cqc_lang X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k3_cqc_lang \\ & X0))) \Rightarrow (m2_subset_1 (k6_cqc_lang X0 X1) (k9_qc_lang1 X0) (k3_cqc_lang \\ & X0)) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (m1_subset_1 (k3_cqc_lang X0) (k1_zfmisc_1 (k9_qc_lang1 X0))) \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (v1_xboolean X0) \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (\\ & \forall X2.(m2_funct_2 X2 (k3_qc_lang1 X0) X1 (k2_valuat_1 X0 X1)) \Rightarrow \\ & (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow \\ & (\forall X4.(m1_valuat_1 X4 X0 X1) \Rightarrow (k3_funct_2 (k2_valuat_1 X0 \\ & X1) k6_margrel1 (k8_valuat_1 X0 X1 X4 (k6_cqc_lang X0 (k7_cqc_lang \\ & X0 X3 (k6_cqc_lang X0 X3)))) X2 = k8_margrel1)))))) \end{aligned}$$