

t34_valuat_1 (TMbqJZndpoCWs- rzPJgVHrVJY9L4DzmKCPqb)

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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 $r1_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (\\ & \forall X2.(m2_funct_2 X2 (k3_qc_lang1 X0) X1 (k2_valuat_1 X0 X1)) \Rightarrow \\ & (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow \\ & (\forall X4.(m2_subset_1 X4 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow \\ & (\forall X5.(m1_valuat_1 X5 X0 X1) \Rightarrow ((r1_valuat_1 X0 X1 (k8_cqc_lang \\ & X0 X3 X4) X5 X2) \Leftrightarrow ((r1_valuat_1 X0 X1 X3 X5 X2) \Rightarrow (r1_valuat_1 X0 X1 X4 \\ & X5 X2)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (\\ & \forall X2.(m2_funct_2 X2 (k3_qc_lang1 X0) X1 (k2_valuat_1 X0 X1)) \Rightarrow \\ & (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow \\ & (\forall X4.(m1_valuat_1 X4 X0 X1) \Rightarrow ((r1_valuat_1 X0 X1 (k6_cqc_lang \\ & X0 X3) X4 X2) \Leftrightarrow (\neg r1_valuat_1 X0 X1 X3 X4 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k3_cqc_lang X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1\ X0)\wedge((m1_subset_1\ X1\ (k3_cqc_lang\ X0))\wedge(m1_subset_1\ X2\ (k3_cqc_lang\ X0))))\Rightarrow(m2_subset_1\ (k8_cqc_lang\ X0\ X1\ X2)\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k3_cqc_lang\ X0)))\Rightarrow(m2_subset_1\ (k6_cqc_lang\ X0\ X1)\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(m1_subset_1\ (k3_cqc_lang\ X0)\ (k1_zfmisc_1\ (k9_qc_lang1\ X0))) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v1_xboole_0\ X1)) \quad (8)$$

Theorem 1

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(\neg v1_xboole_0\ X1)\Rightarrow(\forall X2.(m2_funct_2\ X2\ (k3_qc_lang1\ X0)\ X1\ (k2_valuat_1\ X0\ X1))\Rightarrow(\forall X3.(m2_subset_1\ X3\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0))\Rightarrow(\forall X4.(m1_valuat_1\ X4\ X0\ X1)\Rightarrow(r1_valuat_1\ X0\ X1\ (k8_cqc_lang\ X0\ (k8_cqc_lang\ X0\ (k6_cqc_lang\ X0\ X3)\ X3)\ X3)\ X4\ X2))))))$$