

t2_valuat_1 (TM- Raq4HqvoSoweMDfc4XM7oJ72KPEAuevDn)

October 27, 2020

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 $k6_margrel1 : \iota$ be given. Let $k9_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_margrel1 : \iota$ be given. Let $k12_margrel1 : \iota \Rightarrow \iota$ be given. Let $k8_margrel1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg k7_margrel1 \in X0) \Rightarrow (k12_margrel1 X0 = k8_margrel1)) \wedge \\ & ((\neg(k12_margrel1 X0 = k8_margrel1) \wedge (k7_margrel1 \in X0)) \wedge (((k7_margrel1 \in \\ & X0) \Rightarrow (k12_margrel1 X0 = k7_margrel1)) \wedge ((k12_margrel1 X0 = k7_margrel1) \Rightarrow \\ & (k7_margrel1 \in X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X1) \wedge (m1_funct_2 \\ & X2 X0 X1)) \Rightarrow (\forall X3. (m2_funct_2 X3 X0 X1 X2) \Leftrightarrow (m1_subset_1 X3 \\ & X2)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k3_qc_lang1 X0)) \tag{4}$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k2_qc_lang1 X0)) \tag{5}$$

Assume the following.

$$\neg v1_xboole_0 \ k6_margrel1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 \ X1) \Rightarrow (m1_funct_2 \ (k9_funct_2 \ X0 \ X1) \ X0 \ X1) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((m1_qc_lang1 \ X0) \wedge \\ & ((\neg v1_xboole_0 \ X1) \wedge ((m1_subset_1 \ X2 \ (k3_qc_lang1 \ X0)) \wedge (m1_subset_1 \\ & \ X3 \ (k9_funct_2 \ (k2_valuat_1 \ X0 \ X1) \ k6_margrel1)))))) \Rightarrow (m2_funct_2 \\ & (k3_valuat_1 \ X0 \ X1 \ X2 \ X3) \ (k2_valuat_1 \ X0 \ X1) \ k6_margrel1 \ (k9_funct_2 \\ & (k2_valuat_1 \ X0 \ X1) \ k6_margrel1)) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 \ X0) \Rightarrow (m1_subset_1 \ (k3_qc_lang1 \ X0) \ (k1_zfmisc_1 \ (k2_qc_lang1 \ X0))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 \ X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 \ X1) \Rightarrow (\\ & \forall X2.(m2_subset_1 \ X2 \ (k2_qc_lang1 \ X0) \ (k3_qc_lang1 \ X0)) \Rightarrow \\ & (\forall X3.(m2_funct_2 \ X3 \ (k2_valuat_1 \ X0 \ X1) \ k6_margrel1 \ (k9_funct_2 \\ & (k2_valuat_1 \ X0 \ X1) \ k6_margrel1)) \Rightarrow (\forall X4.(m2_funct_2 \ X4 \\ & (k2_valuat_1 \ X0 \ X1) \ k6_margrel1 \ (k9_funct_2 \ (k2_valuat_1 \ X0 \ X1) \\ & k6_margrel1)) \Rightarrow ((X4 = k3_valuat_1 \ X0 \ X1 \ X2 \ X3) \Leftrightarrow (\forall X5.(m2_funct_2 \\ & X5 \ (k3_qc_lang1 \ X0) \ X1 \ (k2_valuat_1 \ X0 \ X1)) \Rightarrow (k3_funct_2 \ (k2_valuat_1 \\ & X0 \ X1) \ k6_margrel1 \ X4 \ X5 = k12_margrel1 \ (ReplSep \ (toset \ (\lambda X6 : \\ & \iota.m2_funct_2 \ X6 \ (k3_qc_lang1 \ X0) \ X1 \ (k2_valuat_1 \ X0 \ X1))) \ (\lambda X6 : \\ & \iota.\forall X7.(m2_subset_1 \ X7 \ (k2_qc_lang1 \ X0) \ (k3_qc_lang1 \\ & X0)) \Rightarrow ((X2 \neq X7) \Rightarrow (k3_funct_2 \ (k3_qc_lang1 \ X0) \ X1 \ X6 \ X7 = k3_funct_2 \\ & (k3_qc_lang1 \ X0) \ X1 \ X5 \ X7))) \ (\lambda X6 : \iota.k3_funct_2 \ (k2_valuat_1 \\ & X0 \ X1) \ k6_margrel1 \ X3 \ X6)))))))))) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(\neg v1_xboole_0\ X1) \Rightarrow (\\ & \quad \forall X2.(m2_subset_1\ X2\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow \\ & \quad (\forall X3.(m2_funct_2\ X3\ (k3_qc_lang1\ X0)\ X1\ (k2_valuat_1\ X0 \\ & \quad X1)) \Rightarrow (\forall X4.(m2_funct_2\ X4\ (k2_valuat_1\ X0\ X1)\ k6_margrel1 \\ & \quad (k9_funct_2\ (k2_valuat_1\ X0\ X1)\ k6_margrel1)) \Rightarrow ((k3_funct_2\ (\\ & k2_valuat_1\ X0\ X1)\ k6_margrel1\ (k3_valuat_1\ X0\ X1\ X2\ X4)\ X3 = k7_margrel1) \Leftrightarrow \\ & \quad (\exists X5.(m2_funct_2\ X5\ (k3_qc_lang1\ X0)\ X1\ (k2_valuat_1\ X0 \\ & \quad X1)) \wedge ((k3_funct_2\ (k2_valuat_1\ X0\ X1)\ k6_margrel1\ X4\ X5 = k7_margrel1) \wedge \\ & \quad (\forall X6.(m2_subset_1\ X6\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow \\ & ((X2 \neq X6) \Rightarrow (k3_funct_2\ (k3_qc_lang1\ X0)\ X1\ X5\ X6 = k3_funct_2\ (k3_qc_lang1 \\ & \quad X0)\ X1\ X3\ X6)))))))))) \end{aligned}$$