

t3_valuat_1 (TMNQTguBH- SUZHQm7Bj5ns6LYDDhtJRRBijG)

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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 $k6_margrel1 : \iota$ 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 $k8_margrel1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_margrel1 : \iota$ be given. Let $k12_margrel1 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboolean : \iota$ be given. Let $k1_xboolean : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_valuat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_margrel1 : \iota \Rightarrow o$ be given. Let $v1_xboolean : \iota \Rightarrow o$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg k7_margrel1 \in X0) \Rightarrow (k12_margrel1 X0 = k8_margrel1)) \wedge \\ & ((\neg (k12_margrel1 X0 = k8_margrel1) \wedge (k7_margrel1 \in X0)) \wedge ((k7_margrel1 \in \\ & X0) \Rightarrow (k12_margrel1 X0 = k7_margrel1)) \wedge ((k12_margrel1 X0 = k7_margrel1) \Rightarrow \\ & (k7_margrel1 \in X0))) \end{aligned} \quad (2)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X1) \wedge (m1_funct_2 \\ & X2 X0 X1)) \Rightarrow (\forall X3. (m2_funct_2 X3 X0 X1 X2) \Leftrightarrow (m1_subset_1 X3 \\ & X2)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(k9_funct_2 X0 X1 = k1_funct_2 X0 X1) \quad (5)$$

Assume the following.

$$k8_margrel1 = k2_xboolean \quad (6)$$

Assume the following.

$$k7_margrel1 = k1_xboolean \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & (((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))))\wedge(m1_subset_1 X3 X0)))\Rightarrow(k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1 X0)\wedge(\neg v1_xboole_0 X1))\Rightarrow(k2_valuat_1 X0 X1 = k1_valuat_1 X0 X1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_margrel1 X0)))\Rightarrow(v1_xboolean (k1_funct_1 X0 X1)) \quad (10)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(\neg v1_xboole_0 (k3_qc_lang1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(\neg v1_xboole_0 (k2_qc_lang1 X0)) \quad (12)$$

Assume the following.

$$\neg v1_xboole_0 k6_margrel1 \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_qc_lang1 X0)\wedge(\neg v1_xboole_0 X1))\Rightarrow \\ & ((v4_funct_1 (k1_valuat_1 X0 X1))\wedge(\neg v1_xboole_0 (k1_valuat_1 X0 X1))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.v4_funct_1 (k1_funct_2 X0 X1) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X1)\wedge(m1_funct_2 \\ & X2 X0 X1))\Rightarrow(\forall X3.(m2_funct_2 X3 X0 X1 X2)\Rightarrow((v1_funct_1 X3)\wedge \\ & ((v1_funct_2 X3 X0 X1)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(m1_funct_2 (k9_funct_2 X0 X1) X0 X1) \quad (17)$$

Assume the following.

$$m1_subset_1 k7_margrel1 k6_margrel1 \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((m1_qc_lang1 X0)\wedge \\ & ((\neg v1_xboole_0 X1)\wedge((m1_subset_1 X2 (k3_qc_lang1 X0))\wedge(m1_subset_1 \\ & X3 (k9_funct_2 (k2_valuat_1 X0 X1) k6_margrel1))))))\Rightarrow(m2_funct_2 \\ & (k3_valuat_1 X0 X1 X2 X3) (k2_valuat_1 X0 X1) k6_margrel1 (k9_funct_2 \\ & (k2_valuat_1 X0 X1) k6_margrel1)) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(m1_subset_1 (k3_qc_lang1 X0) (k1_zfmisc_1 (k2_qc_lang1 X0))) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1 X0)\wedge(\neg v1_xboole_0 X1))\Rightarrow(m1_funct_2 (k2_valuat_1 X0 X1) (k3_qc_lang1 X0) X1) \quad (21)$$

Assume the following.

$$\forall X0.(v1_xboolean X0)\Leftrightarrow((X0 = k1_xboolean)\vee(X0 = k2_xboolean)) \quad (22)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(\neg v1_xboole_0\ X1) \Rightarrow (\\
& \quad \forall X2.(m2_subset_1\ X2\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow \\
& \quad (\forall X3.(m2_funct_2\ X3\ (k2_valuat_1\ X0\ X1)\ k6_margrel1\ (k9_funct_2 \\
& \quad \quad (k2_valuat_1\ X0\ X1)\ k6_margrel1)) \Rightarrow (\forall X4.(m2_funct_2\ X4 \\
& \quad \quad (k2_valuat_1\ X0\ X1)\ k6_margrel1\ (k9_funct_2\ (k2_valuat_1\ X0\ X1) \\
& \quad \quad k6_margrel1)) \Rightarrow ((X4 = k3_valuat_1\ X0\ X1\ X2\ X3) \Leftrightarrow (\forall X5.(m2_funct_2 \\
& \quad \quad X5\ (k3_qc_lang1\ X0)\ X1\ (k2_valuat_1\ X0\ X1)) \Rightarrow (k3_funct_2\ (k2_valuat_1 \\
& \quad \quad X0\ X1)\ k6_margrel1\ X4\ X5 = k12_margrel1\ (ReplSep\ (toset\ (\lambda X6 : \\
& \quad \quad \iota.m2_funct_2\ X6\ (k3_qc_lang1\ X0)\ X1\ (k2_valuat_1\ X0\ X1)))\ (\lambda X6 : \\
& \quad \quad \iota.\forall X7.(m2_subset_1\ X7\ (k2_qc_lang1\ X0)\ (k3_qc_lang1 \\
& \quad \quad X0)) \Rightarrow ((X2 \neq X7) \Rightarrow (k3_funct_2\ (k3_qc_lang1\ X0)\ X1\ X6\ X7 = k3_funct_2 \\
& \quad \quad (k3_qc_lang1\ X0)\ X1\ X5\ X7)))\ (\lambda X6 : \iota.k3_funct_2\ (k2_valuat_1 \\
& \quad \quad X0\ X1)\ k6_margrel1\ X3\ X6)))))))))
\end{aligned} \tag{23}$$

Assume the following.

$$k1_xboolean = k6_numbers \tag{24}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v4_funct_1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ X0) \Rightarrow (\\
& \quad (v1_relat_1\ X1) \wedge (v1_funct_1\ X1)))
\end{aligned} \tag{25}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1 \\
& \quad X0\ k6_margrel1))) \Rightarrow (((v1_funct_1\ X1) \wedge (v1_funct_2\ X1\ X0\ k6_margrel1)) \Rightarrow \\
& \quad ((v1_funct_1\ X1) \wedge ((v1_funct_2\ X1\ X0\ k6_margrel1) \wedge (v1_margrel1 \\
& \quad \quad X1))))
\end{aligned} \tag{26}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(\neg v1_xboole_0\ X1) \Rightarrow (\\
& \quad \forall X2.(m2_subset_1\ X2\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow \\
& \quad (\forall X3.(m2_funct_2\ X3\ (k3_qc_lang1\ X0)\ X1\ (k2_valuat_1\ X0 \\
& \quad \quad X1)) \Rightarrow (\forall X4.(m2_funct_2\ X4\ (k2_valuat_1\ X0\ X1)\ k6_margrel1 \\
& \quad \quad (k9_funct_2\ (k2_valuat_1\ X0\ X1)\ k6_margrel1)) \Rightarrow ((k3_funct_2\ (\\
& \quad \quad k2_valuat_1\ X0\ X1)\ k6_margrel1\ (k3_valuat_1\ X0\ X1\ X2\ X4)\ X3 = k8_margrel1) \Leftrightarrow \\
& \quad \quad (\forall X5.(m2_funct_2\ X5\ (k3_qc_lang1\ X0)\ X1\ (k2_valuat_1\ X0 \\
& \quad \quad X1)) \Rightarrow ((\forall X6.(m2_subset_1\ X6\ (k2_qc_lang1\ X0)\ (k3_qc_lang1 \\
& \quad \quad X0)) \Rightarrow ((X2 \neq X6) \Rightarrow (k3_funct_2\ (k3_qc_lang1\ X0)\ X1\ X5\ X6 = k3_funct_2 \\
& \quad \quad (k3_qc_lang1\ X0)\ X1\ X3\ X6))) \Rightarrow (k3_funct_2\ (k2_valuat_1\ X0\ X1)\ k6_margrel1 \\
& \quad \quad X4\ X5 = k8_margrel1)))))))))
\end{aligned}$$