

t50_bvfunc14 (TMKuXgM- jar9WRoVJzn1m8PZmPetW7MbeDxr)

October 27, 2020

Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k5_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k3_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& \forall X6.((v1_relat_1 X6) \wedge (v1_funct_1 X6)) \Rightarrow (\forall X7.\forall X8. \\
& \quad \forall X9.\forall X10.\forall X11.\forall X12.(X6 = k1_funct_4 \\
& \quad (k1_funct_4 (k1_funct_4 (k1_funct_4 (k1_funct_4 (k16_funcop_1 \\
& \quad X1 X8) (k16_funcop_1 X2 X9)) (k16_funcop_1 X3 X10)) (k16_funcop_1 \\
& \quad X4 X11)) (k16_funcop_1 X5 X12)) (k16_funcop_1 X0 X7)) \Rightarrow (k9_xtuple_0 \\
& \quad X6 = k4_enumset1 X0 X1 X2 X3 X4 X5))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& \forall X6.k5_enumset1 X0 X1 X2 X3 X4 X5 X6 = k2_xboole_0 (k1_tarski \\
& \quad X0) (k4_enumset1 X1 X2 X3 X4 X5 X6)
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& k4_enumset1 X0 X1 X2 X3 X4 X5 = k2_xboole_0 (k3_enumset1 X0 X1 X2 X3 \\
& \quad X4) (k1_tarski X5)
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(k9_xtuple_0 (k2_funcop_1 X0 X1) = X0) \wedge (\\
& r1_tarski (k10_xtuple_0 (k2_funcop_1 X0 X1)) (k1_tarski X1))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & k4_enumset1\ X0\ X1\ X2\ X3\ X4\ X5 = k2_xboole_0\ (k1_tarski\ X0)\ (k3_enumset1 \\ & \quad X1\ X2\ X3\ X4\ X5) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.k7_funcop_1\ X0\ X1 = k2_funcop_1\ X0\ X1 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1\ (k16_funcop_1\ X0\ X1)) \wedge (v1_funct_1\ (k16_funcop_1\ X0\ X1)) \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v1_funct_1\ (k7_funcop_1\ X0\ X1)) \wedge ((v1_funct_2 \\ & (k7_funcop_1\ X0\ X1)\ X0\ (k1_tarski\ X1)) \wedge (m1_subset_1\ (k7_funcop_1 \\ & \quad X0\ X1)\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ (k1_tarski\ X1)))))) \end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1\ X0) \wedge (v1_funct_1\ X0)) \wedge ((\\ & v1_relat_1\ X1) \wedge (v1_funct_1\ X1))) \Rightarrow ((v1_relat_1\ (k1_funct_4\ X0 \\ & \quad X1)) \wedge (v1_funct_1\ (k1_funct_4\ X0\ X1))) \end{aligned} \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.k16_funcop_1\ X0\ X1 = k7_funcop_1\ (k1_tarski\ X0)\ X1 \tag{10}$$

Assume the following.

$$\begin{aligned} & \forall X0.(((v1_relat_1\ X0) \wedge (v1_funct_1\ X0)) \Rightarrow (\forall X1.(((\\ & v1_relat_1\ X1) \wedge (v1_funct_1\ X1)) \Rightarrow (\forall X2.(((v1_relat_1\ X2) \wedge \\ & (v1_funct_1\ X2)) \Rightarrow ((X2 = k1_funct_4\ X0\ X1) \Leftrightarrow ((k9_xtuple_0\ X2 = k2_xboole_0 \\ & \quad (k9_xtuple_0\ X0)\ (k9_xtuple_0\ X1)) \wedge (\forall X3.(X3 \in k2_xboole_0 \\ & \quad (k9_xtuple_0\ X0)\ (k9_xtuple_0\ X1)) \Rightarrow (((X3 \in k9_xtuple_0\ X1) \Rightarrow (k1_funct_1 \\ & \quad X2\ X3 = k1_funct_1\ X1\ X3)) \wedge ((\neg X3 \in k9_xtuple_0\ X1) \Rightarrow (k1_funct_1\ X2 \\ & \quad X3 = k1_funct_1\ X0\ X3)))))))))) \end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0\ X0\ X1 = k2_xboole_0\ X1\ X0 \tag{12}$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.\forall X7.((v1_relat_1 X7)\wedge(v1_funct_1 X7))\Rightarrow(\forall X8. \\ & \quad \forall X9.\forall X10.\forall X11.\forall X12.\forall X13.\forall X14. \\ & \quad (X7 = k1_funct_4 (k1_funct_4 (k1_funct_4 (k1_funct_4 (k1_funct_4 \\ & \quad (k1_funct_4 (k16_funcop_1 X1 X9) (k16_funcop_1 X2 X10)) (k16_funcop_1 \\ & \quad X3 X11)) (k16_funcop_1 X4 X12)) (k16_funcop_1 X5 X13)) (k16_funcop_1 \\ & \quad X6 X14)) (k16_funcop_1 X0 X8))\Rightarrow(k9_xtuple_0 X7 = k5_enumset1 X0 \\ & \quad X1 X2 X3 X4 X5 X6)) \end{aligned}$$