

t12_random_2
 (TMdb9heSdXmYUpLVdRfPCekjRq9swxbnE1r)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k1_numbers : \iota$ 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 $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_bhsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k33_binop_2 : \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k4_bhsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\
 & (v1_funct_2 X1 X0 k1_numbers) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & X0 k1_numbers)))))) \Rightarrow (\forall X2. ((v1_finset_1 X2) \wedge (m1_subset_1 \\
 & X2 (k1_zfmisc_1 X0))) \Rightarrow (\exists X3. (m2_finseq_1 X3 X0) \wedge ((v2_funct_1 \\
 & X3) \wedge ((k2_relset_1 X0 X3 = X2) \wedge (k5_bhsp_5 k1_numbers X0 k33_binop_2 \\
 & X2 X1 = k18_rvsum_1 (k4_bhsp_5 k1_numbers X0 X1 X3))))))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 k1_numbers) \wedge \\
& (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X1 k1_numbers) \wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 k1_numbers)))))) \Rightarrow \\
& (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (k2_zfmisc_1 X0 \\
X1) k1_numbers) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
X0 X1) k1_numbers)))))) \Rightarrow (\forall X5.((\neg v1_xboole_0 X5) \wedge ((v1_finset_1 \\
X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X6.(m2_finseq_1 \\
X6 X0) \Rightarrow (((v2_funct_1 X6) \wedge (k2_relset_1 X0 X6 = X5)) \Rightarrow (\forall X7. \\
(m2_finseq_1 X7 X1) \Rightarrow (\forall X8.(m2_finseq_1 X8 (k2_zfmisc_1 \\
X0 X1) \Rightarrow (\forall X9.((\neg v1_xboole_0 X9) \wedge ((v1_finset_1 X9) \wedge (m1_subset_1 \\
X9 (k1_zfmisc_1 X1)))) \Rightarrow (\forall X10.((v1_finset_1 X10) \wedge (m1_subset_1 \\
X10 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (((v2_funct_1 X7) \wedge ((\\
k2_relset_1 X1 X7 = X9) \wedge ((v2_funct_1 X8) \wedge ((r2_relset_1 X0 X1 (k2_relset_1 \\
(k2_zfmisc_1 X0 X1) X8) X10) \wedge ((X10 = k2_zfmisc_1 X5 X9) \wedge (\forall X11. \\
\forall X12.((X11 \in X5) \wedge (X12 \in X9)) \Rightarrow (k1_binop_1 X4 X11 X12 = k11_binop_2 \\
(k1_seq_1 X2 X11) (k1_seq_1 X3 X12)))))))))) \Rightarrow (k18_rvsum_1 (k4_bhs_5 \\
k1_numbers (k2_zfmisc_1 X0 X1) X4 X8) = k11_binop_2 (k18_rvsum_1 \\
(k4_bhs_5 k1_numbers X0 X2 X6) (k18_rvsum_1 (k4_bhs_5 k1_numbers \\
X1 X3 X7))))))))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\
& (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (\neg v1_xboole_0 X1)) \Rightarrow \\
& (\neg v1_xboole_0 (k2_zfmisc_1 X0 X1))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 k1_numbers) \wedge \\
& (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X1 k1_numbers) \wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 k1_numbers)))))) \Rightarrow \\
& (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (k2_zfmisc_1 X0 \\
X1) k1_numbers) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
X0 X1) k1_numbers)))))) \Rightarrow (\forall X5.((\neg v1_xboole_0 X5) \wedge ((v1_finset_1 \\
X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X6.((\neg v1_xboole_0 \\
X6) \wedge ((v1_finset_1 X6) \wedge (m1_subset_1 X6 (k1_zfmisc_1 X1)))) \Rightarrow (\\
\forall X7.((v1_finset_1 X7) \wedge (m1_subset_1 X7 (k1_zfmisc_1 (k2_zfmisc_1 \\
X0 X1)))) \Rightarrow (((X7 = k2_zfmisc_1 X5 X6) \wedge (\forall X8. \forall X9. ((\\
X8 \in X5) \wedge (X9 \in X6)) \Rightarrow (k1_binop_1 X4 X8 X9 = k11_binop_2 (k1_seq_1 X2 \\
X8) (k1_seq_1 X3 X9)))) \Rightarrow (k5_bhsp_5 k1_numbers (k2_zfmisc_1 X0 \\
X1) k33_binop_2 X7 X4 = k11_binop_2 (k5_bhsp_5 k1_numbers X0 k33_binop_2 \\
X5 X2) (k5_bhsp_5 k1_numbers X1 k33_binop_2 X6 X3)))))))))
\end{aligned}$$