

t31_prob_1
(TMLjyBxcL75GxL2bTz5rDXrR8RzoqES3B3r)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_prob_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_prob_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_prob_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_prob_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_prob_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_prob_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_subset_1 : \iota \Rightarrow \iota$ be given. Let $k6_prob_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_numbers : \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $v2_prob_1 : \iota \Rightarrow o$ be given. Let $v2_comseq_2 : \iota \Rightarrow o$ be given. Let $k8_prob_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_seq_2 : \iota \Rightarrow \iota$ be given. Let $k3_prob_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.r1_xboole_0 (k4_xboole_0 X0 X1) X1 \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k4_subset_1 X0 X1 (k3_subset_1 X0 X1) = k2_subset_1 X0) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X1) \wedge ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.(m1_prob_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1_xboole_0 X1) \wedge ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))))) \wedge ((m1_subset_1 X2 X1) \wedge (m1_subset_1 X3 X1))) \Rightarrow (k7_prob_1 X0 X1 X2 X3 = k4_xboole_0 X2 X3) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1_xboole_0 \\ & X1)\wedge((v1_prob_1 X1 X0)\wedge((v4_prob_1 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0))))))\wedge((m1_subset_1 X2 X1)\wedge(m1_subset_1 X3 X1)))\Rightarrow \\ & (k6_prob_1 X0 X1 X2 X3 = k2_xboole_0 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 \\ & X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(k4_subset_1 X0 X1 X2 = \\ & k2_xboole_0 X1 X2) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ & ((v1_prob_1 X1 X0)\wedge((v4_prob_1 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0))))))\Rightarrow(\forall X2.(m2_prob_1 X2 X0 X1)\Rightarrow((v1_funct_1 \\ & X2)\wedge((v1_funct_2 X2 X1 k1_numbers)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X1 k1_numbers)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X1)\wedge((v1_prob_1 X1 X0)\wedge \\ & ((v4_prob_1 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\ & X0))))))\Rightarrow(\forall X2.(m1_prob_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 (k1_zfmisc_1 \\ & X0))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1_xboole_0 \\ & X1)\wedge((v1_prob_1 X1 X0)\wedge((v4_prob_1 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0))))))\wedge((m1_subset_1 X2 X1)\wedge(m1_subset_1 X3 X1)))\Rightarrow \\ & (m1_prob_1 (k7_prob_1 X0 X1 X2 X3) X0 X1) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X1)\wedge((v1_prob_1 X1 X0)\wedge \\ & ((v4_prob_1 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\ & X0))))))\Rightarrow(m1_prob_1 (k4_prob_1 X0 X1) X0 X1) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(m1_subset_1 \\ & (k3_subset_1 X0 X1) (k1_zfmisc_1 X0)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k1_numbers) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 \\
& k1_numbers)))))) \Rightarrow ((m2_prob_1 X2 X0 X1) \Leftrightarrow ((\forall X3.(m1_prob_1 \\
& X3 X0 X1) \Rightarrow (r1_xreal_0 k6_numbers (k1_seq_1 X2 X3))) \wedge ((k1_seq_1 \\
& X2 X0 = np_1) \wedge ((\forall X3.(m1_prob_1 X3 X0 X1) \Rightarrow (\forall X4.(m1_prob_1 \\
& X4 X0 X1) \Rightarrow ((r1_xboole_0 X3 X4) \Rightarrow (k1_seq_1 X2 (k6_prob_1 X0 X1 X3 X4) = \\
& k7_real_1 (k1_seq_1 X2 X3) (k1_seq_1 X2 X4)))))) \wedge (\forall X3.((\\
& v5_relat_1 X3 X1) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 k5_numbers \\
& (k9_setfam_1 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k5_numbers (k9_setfam_1 X0)))))) \Rightarrow ((v2_prob_1 X3) \Rightarrow ((v2_comseq_2 \\
& (k8_prob_1 X0 X1 X3 X2) \wedge (k2_seq_2 (k8_prob_1 X0 X1 X3 X2) = k1_seq_1 \\
& X2 (k3_prob_1 X0 X3))))))))))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1_xboole_0 X1) \wedge ((v1_prob_1 X1 X0) \wedge \\
& ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\
& X0)))))) \Rightarrow (k4_prob_1 X0 X1 = X0)
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 \\
& X0 X1 = k4_xboole_0 X0 X1)
\end{aligned} \tag{14}$$

Assume the following.

$$\forall X0.k2_subset_1 X0 = X0 \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \tag{16}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.(m1_prob_1 X2 X0 X1) \Rightarrow (\forall X3. \\
& (m2_prob_1 X3 X0 X1) \Rightarrow (k7_real_1 (k1_seq_1 X3 (k7_prob_1 X0 X1 (k4_prob_1 \\
& X0 X1) X2) (k1_seq_1 X3 X2) = np_1))))
\end{aligned}$$