

t16_random_2

(TMHxM2UKJpms7V3wV3R7uEJEGt9Tz5fL2Z1)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m2_prob_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_random_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_random_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k5_bhsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k33_binop_2 : \iota$ be given. Let $v1_prob_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_prob_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow (k1_random_1 X0 = k1_zfmisc_1 X0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2. (m2_prob_1 \\ & X2 X0 (k1_random_1 X0)) \Rightarrow (\forall X3. (m2_prob_1 X3 X1 (k1_random_1 \\ & X1)) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (k2_zfmisc_1 \\ & X0 X1) k1_numbers) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1) k1_numbers)))))) \Rightarrow (\forall X5. ((v1_funct_1 \\ & X5) \wedge ((v1_funct_2 X5 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)) k1_numbers) \wedge \\ & (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)) k1_numbers)))))) \Rightarrow (\forall X6. ((\neg v1_xboole_0 X6) \wedge ((v1_finset_1 \\ & X6) \wedge (m1_subset_1 X6 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X7. ((\neg v1_xboole_0 \\ & X7) \wedge ((v1_finset_1 X7) \wedge (m1_subset_1 X7 (k1_zfmisc_1 X1)))) \Rightarrow (\\ & ((\forall X8. \forall X9. ((X8 \in X0) \wedge (X9 \in X1)) \Rightarrow (k1_binop_1 X4 X8 \\ & X9 = k11_binop_2 (k1_seq_1 X2 (k1_tarski X8)) (k1_seq_1 X3 (k1_tarski \\ & X9)))) \wedge (\forall X8. ((v1_finset_1 X8) \wedge (m1_subset_1 X8 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \Rightarrow (k1_seq_1 X5 X8 = k5_bhsp_5 k1_numbers (\\ & k2_zfmisc_1 X0 X1) k33_binop_2 X8 X4))) \Rightarrow (k1_seq_1 X5 (k2_zfmisc_1 \\ & X6 X7) = k11_binop_2 (k1_seq_1 X2 X6) (k1_seq_1 X3 X7))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(\neg v1_xboole_0 X1))\Rightarrow (\neg v1_xboole_0 (k2_zfmisc_1 X0 X1)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ & ((v1_prob_1 X1 X0)\wedge((v4_prob_1 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0))))))\Rightarrow(\forall X2.(m2_prob_1 X2 X0 X1)\Rightarrow((v1_funct_1 \\ & X2)\wedge((v1_funct_2 X2 X1 k1_numbers)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X1 k1_numbers)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1_xboole_0 \\ & X0)\wedge(v1_finset_1 X0))\wedge(((\neg v1_xboole_0 X1)\wedge(v1_finset_1 X1))\wedge \\ & ((m2_prob_1 X2 X0 (k1_random_1 X0))\wedge(m2_prob_1 X3 X1 (k1_random_1 \\ & X1))))\Rightarrow(m2_prob_1 (k2_random_2 X0 X1 X2 X3) (k2_zfmisc_1 X0 X1) \\ & (k1_random_1 (k2_zfmisc_1 X0 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow((\neg v1_xboole_0 (k1_random_1 X0))\wedge \\ & ((v1_prob_1 (k1_random_1 X0) X0)\wedge((v4_prob_1 (k1_random_1 X0) \\ & X0)\wedge(m1_subset_1 (k1_random_1 X0) (k1_zfmisc_1 (k1_zfmisc_1 \\ & X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0)\wedge(v1_finset_1 X0))\Rightarrow(\forall X1. \\ & ((\neg v1_xboole_0 X1)\wedge(v1_finset_1 X1))\Rightarrow(\forall X2.(m2_prob_1 \\ & X2 X0 (k1_random_1 X0))\Rightarrow(\forall X3.(m2_prob_1 X3 X1 (k1_random_1 \\ & X1))\Rightarrow(\forall X4.(m2_prob_1 X4 (k2_zfmisc_1 X0 X1) (k1_random_1 \\ & (k2_zfmisc_1 X0 X1))\Rightarrow((X4 = k2_random_2 X0 X1 X2 X3)\Leftrightarrow(\exists X5. \\ & ((v1_funct_1 X5)\wedge((v1_funct_2 X5 (k2_zfmisc_1 X0 X1) k1_numbers)\wedge \\ & (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) \\ & k1_numbers))))))\wedge((\forall X6.\forall X7.((X6 \in X0)\wedge(X7 \in X1))\Rightarrow \\ & (k1_binop_1 X5 X6 X7 = k11_binop_2 (k1_seq_1 X2 (k1_tarSKI X6)) (\\ & k1_seq_1 X3 (k1_tarSKI X7))))\wedge(\forall X6.((v1_finset_1 X6)\wedge \\ & (m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k1_seq_1 \\ & X4 X6 = k5_bhsP_5 k1_numbers (k2_zfmisc_1 X0 X1) k33_binop_2 X6 X5)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_finset_1 X1)) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.(m2_prob_1 \\ & X2 X0 (k1_random_1 X0)) \Rightarrow (\forall X3.(m2_prob_1 X3 X1 (k1_random_1 \\ & X1)) \Rightarrow (\forall X4.((\neg v1_xboole_0 X4) \wedge ((v1_finset_1 X4) \wedge (m1_subset_1 \\ & X4 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X5.((\neg v1_xboole_0 X5) \wedge ((v1_finset_1 \\ & X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 X1)))) \Rightarrow (k1_seq_1 (k2_random_2 \\ & X0 X1 X2 X3) (k2_zfmisc_1 X4 X5) = k11_binop_2 (k1_seq_1 X2 X4) (k1_seq_1 \\ & X3 X5)))))) \end{aligned}$$