

l11_random_2

(TMWyg88yMUqnmnkWmMqASGkKqsUGZ4GEWRd)

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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 $v1_funct_1 : \iota \Rightarrow o$ 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 $k1_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_tarski : \iota \Rightarrow \iota$ be given. Let $r8_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow (\forall X3. ((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (((k9_xtuple_0 \\ & X2 = k2_zfmisc_1 X0 X1) \wedge ((k9_xtuple_0 X3 = k2_zfmisc_1 X0 X1) \wedge (\forall X4. \\ & \forall X5. ((X4 \in X0) \wedge (X5 \in X1)) \Rightarrow (k1_binop_1 X2 X4 X5 = k1_binop_1 \\ & X3 X4 X5)))) \Rightarrow (X2 = X3))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((v1_funct_1 \\ & X3) \wedge ((v1_funct_2 X3 (k2_zfmisc_1 X0 X1) X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) X2)))) \wedge ((v1_funct_1 X4) \wedge ((\\ & v1_funct_2 X4 (k2_zfmisc_1 X0 X1) X2) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) X2)))))) \Rightarrow ((r8_binop_1 X0 X1 X2 \\ & X3 X4) \Leftrightarrow (X3 = X4)) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \tag{3}$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \tag{4}$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 \ X0)\wedge(\neg v1_xboole_0 \ X1))\Rightarrow (\neg v1_xboole_0 \ (k2_zfmisc_1 \ X0 \ X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow(((X1\neq k1_xboole_0)\Rightarrow((v1_funct_2 \ X2 \ X0 \ X1)\Leftrightarrow(X0 = k1_relset_1 \ X0 \ X2)))\wedge((X1 = k1_xboole_0)\Rightarrow((v1_funct_2 \ X2 \ X0 \ X1)\Leftrightarrow(X2 = k1_xboole_0)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 \ X0)\wedge(\neg v1_xboole_0 \ X1))\Rightarrow (\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow (((v1_funct_1 \ X2)\wedge(v1_funct_2 \ X2 \ X0 \ X1))\Rightarrow((v1_funct_1 \ X2)\wedge(\neg v1_xboole_0 \ X2)\wedge(v1_funct_2 \ X2 \ X0 \ X1)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow((v4_relat_1 \ X2 \ X0)\wedge(v5_relat_1 \ X2 \ X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow(v1_relat_1 \ X2) \quad (10)$$

Assume the following.

$$\forall X0.(v1_xboole_0 \ X0)\Rightarrow(v1_funct_1 \ X0) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 \ X0)\wedge(v1_finset_1 \ X0))\Rightarrow(\forall X1. \\ & ((\neg v1_xboole_0 \ X1)\wedge(v1_finset_1 \ X1))\Rightarrow(\forall X2.(m2_prob_1 \\ & X2 \ X0 \ (k1_random_1 \ X0))\Rightarrow(\forall X3.(m2_prob_1 \ X3 \ X1 \ (k1_random_1 \\ & X1))\Rightarrow(\forall X4.((v1_funct_1 \ X4)\wedge((v1_funct_2 \ X4 \ (k2_zfmisc_1 \\ & X0 \ X1) \ k1_numbers)\wedge(m1_subset_1 \ X4 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1) \ k1_numbers))))))\Rightarrow(\forall X5.((v1_funct_1 \\ & X5)\wedge((v1_funct_2 \ X5 \ (k2_zfmisc_1 \ X0 \ X1) \ k1_numbers)\wedge(m1_subset_1 \\ & X5 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1) \ k1_numbers))))))\Rightarrow \\ & (((\forall X6.\forall X7.((X6 \in X0)\wedge(X7 \in X1))\Rightarrow(k1_binop_1 \ X4 \ X6 \\ & X7 = k11_binop_2 \ (k1_seq_1 \ X2 \ (k1_tarski \ X6)) \ (k1_seq_1 \ X3 \ (k1_tarski \\ & X7))))\wedge(\forall X6.\forall X7.((X6 \in X0)\wedge(X7 \in X1))\Rightarrow(k1_binop_1 \\ & X5 \ X6 \ X7 = k11_binop_2 \ (k1_seq_1 \ X2 \ (k1_tarski \ X6)) \ (k1_seq_1 \ X3 \ (\\ & k1_tarski \ X7))))))\Rightarrow(r8_binop_1 \ X0 \ X1 \ k1_numbers \ X4 \ X5)))))) \end{aligned}$$