

t43_abcmiz_a
(TMJR6ukpeUmy7aP5zvN7PB16boHgWtccoVe)

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Let $v4_abcmiz_a : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k27_abcmiz_1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k10_abcmiz_a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k29_abcmiz_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_trees_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $v1_instalg1 : \iota \Rightarrow o$ be given. Let $v1_abcmiz_1 : \iota \Rightarrow o$ be given. Let $v3_abcmiz_1 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $k34_abcmiz_1 : \iota \Rightarrow \iota$ be given. Let $v3_trees_3 : \iota \Rightarrow o$ be given. Let $v1_msualg_1 : \iota \Rightarrow o$ be given. Let $k4_trees_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_trees_2 : \iota \Rightarrow o$ be given. Let $v2_abcmiz_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_abcmiz_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k36_abcmiz_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k28_abcmiz_1 : \iota \Rightarrow \iota$ be given. Let $k3_card_3 : \iota \Rightarrow \iota$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_msafree3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_trees_3 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k11_trees_3 : \iota \Rightarrow \iota$ be given. Let $k2_funct_6 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_trees_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0))) \Rightarrow (\forall X2.(m1_trees_4 X2 X0 X1) \Leftrightarrow (m1_finseq_1 X2 X1)) \quad (2)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (3)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. k1_xtuple_0 (k4_tarski X0 X1) = X0 \quad (5)$$

Assume the following.

$$\forall X0. \exists X1. (m1_finseq_1 X1 X0) \wedge ((v1_relat_1 X1) \wedge (v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_xboole_0 X1) \wedge ((v1_finset_1 X1) \wedge (v1_finseq_1 X1)))))) \quad (6)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (7)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow ((v1_xboole_0 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (8)$$

Assume the following.

$$\forall X0. ((v1_instalg_1 X0) \wedge ((v1_abcmiz_1 X0) \wedge ((v3_abcmiz_1 X0) \wedge (l1_msualg_1 X0)))) \Rightarrow ((\neg v1_xboole_0 (k34_abcmiz_1 X0)) \wedge (v3_trees_3 (k34_abcmiz_1 X0))) \quad (9)$$

Assume the following.

$$(v1_msualg_1 k27_abcmiz_1) \wedge ((v1_instalg_1 k27_abcmiz_1) \wedge ((v1_abcmiz_1 k27_abcmiz_1) \wedge (v3_abcmiz_1 k27_abcmiz_1))) \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((v1_relat_1 (k4_trees_4 X0 X1)) \wedge ((v1_funct_1 (k4_trees_4 X0 X1)) \wedge (v3_trees_2 (k4_trees_4 X0 X1)))) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v1_instalg_1 X0) \wedge ((v1_abcmiz_1 X0) \wedge ((v3_abcmiz_1 X0) \wedge (l1_msualg_1 X0)))) \wedge (((v2_abcmiz_1 X1 X0) \wedge (m1_subset_1 X1 (u4_struct_0 X0))) \wedge (m1_finseq_1 X2 (k34_abcmiz_1 X0)))) \Rightarrow ((v5_abcmiz_1 (k36_abcmiz_1 X0 X1 X2) X0 (k28_abcmiz_1 X0)) \wedge (m1_subset_1 (k36_abcmiz_1 X0 X1 X2) (k3_card_3 (u3_msualg_1 X0 (k1_msafree3 X0 (k28_abcmiz_1 X0)))))) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_instalg1\ X0)\wedge((v1_abcmiz_1\ X0)\wedge((v3_abcmiz_1 \\ X0)\wedge(l1_msualg_1\ X0))))\Rightarrow(m1_subset_1\ (k34_abcmiz_1\ X0)\ (k1_zfmisc_1 \\ (k3_card_3\ (u3_msualg_1\ X0\ (k1_msafree3\ X0\ (k28_abcmiz_1\ X0)))))) \end{aligned} \quad (14)$$

Assume the following.

$$(v1_msualg_1\ k27_abcmiz_1)\wedge((v1_instalg1\ k27_abcmiz_1)\wedge((v1_abcmiz_1\ k27_abcmiz_1)\wedge(l1_msualg_1\ k27_abcmiz_1))) \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_instalg1\ X0)\wedge((v1_abcmiz_1\ X0)\wedge((v3_abcmiz_1 \\ X0)\wedge(l1_msualg_1\ X0))))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k3_card_3 \\ (u3_msualg_1\ X0\ (k1_msafree3\ X0\ (k28_abcmiz_1\ X0)))))\Rightarrow(((v5_abcmiz_1 \\ X1\ X0\ (k28_abcmiz_1\ X0))\Rightarrow(k10_abcmiz_a\ X0\ X1 = k1_xtuple_0\ (k1_funct_1 \\ X1\ k1_xboole_0)))\wedge((\neg v5_abcmiz_1\ X1\ X0\ (k28_abcmiz_1\ X0))\Rightarrow(k10_abcmiz_a \\ X0\ X1 = k1_xboole_0)))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge(v1_finseq_1 \\ X1)))\Rightarrow((v6_trees_3\ X1)\Rightarrow(\forall X2.((v1_relat_1\ X2)\wedge((v1_funct_1 \\ X2)\wedge(v3_trees_2\ X2))))\Rightarrow((X2 = k4_trees_4\ X0\ X1)\Leftrightarrow((\exists X3.(\\ (v1_relat_1\ X3)\wedge((v1_funct_1\ X3)\wedge((v1_finseq_1\ X3)\wedge(v6_trees_3 \\ X3))))\wedge((X1 = X3)\wedge(k9_xtuple_0\ X2 = k11_trees_3\ (k2_funct_6\ X3))))\wedge \\ ((k1_funct_1\ X2\ k1_xboole_0 = X0)\wedge(\forall X3.(m1_subset_1\ X3 \\ k5_numbers)\Rightarrow((\neg r1_xreal_0\ (k3_finseq_1\ X1\ X3)\Rightarrow(k5_trees_2 \\ X2\ (k12_finseq_1\ k5_numbers\ X3) = k1_funct_1\ X1\ (k2_nat_1\ X3\ np_1)))))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_instalg1\ X0)\wedge((v1_abcmiz_1\ X0)\wedge((v3_abcmiz_1 \\ X0)\wedge(l1_msualg_1\ X0))))\Rightarrow(\forall X1.((v2_abcmiz_1\ X1\ X0)\wedge(m1_subset_1 \\ X1\ (u4_struct_0\ X0)))\Rightarrow(\forall X2.(m1_trees_4\ X2\ (k3_card_3\ (\\ u3_msualg_1\ X0\ (k1_msafree3\ X0\ (k28_abcmiz_1\ X0))))\ (k34_abcmiz_1 \\ X0))\Rightarrow((k3_finseq_1\ X2 = k3_finseq_1\ (k1_msualg_1\ X0\ X1))\Rightarrow(k36_abcmiz_1 \\ X0\ X1\ X2 = k4_trees_4\ (k4_tarski\ X1\ (u1_struct_0\ X0)\ X2)))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_instalg1\ X0)\wedge((v1_abcmiz_1\ X0)\wedge((v3_abcmiz_1 \\ X0)\wedge(l1_msualg_1\ X0))))\Rightarrow(\forall X1.((v2_abcmiz_1\ X1\ X0)\wedge(m1_subset_1 \\ X1\ (u4_struct_0\ X0)))\Rightarrow((k3_finseq_1\ (k1_msualg_1\ X0\ X1) = k6_numbers)\Rightarrow \\ (k29_abcmiz_1\ X0\ X1 = k4_trees_4\ (k4_tarski\ X1\ (u1_struct_0\ X0) \\ k1_xboole_0))) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.((\neg v11_struct_0 X0) \wedge ((v1_instalg1 X0) \wedge (l1_msualg_1 X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u4_struct_0 X0)) \Rightarrow ((v4_abcmiz_a X1 X0) \Leftrightarrow (k1_msualg_1 X0 X1 = k1_xboole_0))) \quad (20)$$

Assume the following.

$$\forall X0.((v1_instalg1 X0) \wedge ((v1_abcmiz_1 X0) \wedge (l1_msualg_1 X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u4_struct_0 X0)) \Rightarrow ((v4_abcmiz_a X1 X0) \Rightarrow (v2_abcmiz_1 X1 X0))) \quad (21)$$

Assume the following.

$$\forall X0.(l1_msualg_1 X0) \Rightarrow (((v1_instalg1 X0) \wedge (v1_abcmiz_1 X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (v1_instalg1 X0)))) \quad (22)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (23)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v3_trees_3 X0)) \Rightarrow (\forall X1.(m1_finseq_1 X1 X0) \Rightarrow (v6_trees_3 X1)) \quad (24)$$

Theorem 1

$$\forall X0.(((v4_abcmiz_a X0 k27_abcmiz_1) \wedge (m1_subset_1 X0 (u4_struct_0 k27_abcmiz_1))) \Rightarrow (k10_abcmiz_a k27_abcmiz_1 (k29_abcmiz_1 k27_abcmiz_1 X0) = X0))$$