

t2_mesfunc9

(TMK26EFXS97xCzTuK2BxSyN6KbEfPh9K7w1)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_numbers : \iota$ be given. Let $v4_mesfunc5 : \iota \Rightarrow o$ be given. Let $v3_mesfunc5 : \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_mesfunc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k8_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_supinf_1 : \iota$ be given. Let $k2_supinf_1 : \iota$ be given. Let $k12_supinf_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_supinf_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 X1) \Rightarrow ((X0 \in k10_xtuple_0 X1) \Leftrightarrow (k8_relat_1 X1 (k1_tarski X0) \neq k1_xboole_0)) \quad (1)$$

Assume the following.

$$\forall X0. k4_xboole_0 X0 k1_xboole_0 = X0 \quad (2)$$

Assume the following.

$$\forall X0. k3_xboole_0 X0 k1_xboole_0 = k1_xboole_0 \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X0 = X0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((v1_relat_1 \\ & X1)\wedge((v4_relat_1 X1 X0)\wedge((v5_relat_1 X1 k7_numbers)\wedge(v1_funct_1 \\ & X1))))\wedge((v1_relat_1 X2)\wedge((v4_relat_1 X2 X0)\wedge((v5_relat_1 X2 \\ & k7_numbers)\wedge(v1_funct_1 X2))))))\Rightarrow((v1_funct_1 (k4_mesfunc1 \\ & X0 X1 X2))\wedge(m1_subset_1 (k4_mesfunc1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k7_numbers)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0)\Rightarrow((v4_mesfunc5 X0)\Leftrightarrow(\neg k1_supinf_1 \in k10_xtuple_0 X0)) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge \\ & (v4_relat_1 X1 X0)\wedge((v5_relat_1 X1 k7_numbers)\wedge(v1_funct_1 X1)))\Rightarrow \\ & (\forall X2.((v1_relat_1 X2)\wedge((v4_relat_1 X2 X0)\wedge((v5_relat_1 \\ & X2 k7_numbers)\wedge(v1_funct_1 X2))))\Rightarrow(\forall X3.((v1_funct_1 \\ & X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 k7_numbers))))\Rightarrow \\ & ((X3 = k4_mesfunc1 X0 X1 X2)\Leftrightarrow((k9_xtuple_0 X3 = k6_subset_1 (k3_xboole_0 \\ & (k9_xtuple_0 X1) (k9_xtuple_0 X2)) (k2_xboole_0 (k3_xboole_0 \\ & (k8_relat_1 X1 (k1_tarski k1_supinf_1)) (k8_relat_1 X2 (k1_tarski \\ & k1_supinf_1)) (k3_xboole_0 (k8_relat_1 X1 (k1_tarski k2_supinf_1)) \\ & (k8_relat_1 X2 (k1_tarski k2_supinf_1))))))\wedge(\forall X4.(m1_subset_1 \\ & X4 X0)\Rightarrow((X4 \in k9_xtuple_0 X3)\Rightarrow(k12_supinf_2 X3 X4 = k4_supinf_2 \\ & (k12_supinf_2 X1 X4) (k12_supinf_2 X2 X4)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0)\Rightarrow((v3_mesfunc5 X0)\Leftrightarrow(\neg k2_supinf_1 \in k10_xtuple_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge \\ & \quad m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k7_numbers))))\Rightarrow(\\ & \quad \forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & \quad X0 k7_numbers))))\Rightarrow(((v4_mesfunc5 X1)\wedge(v3_mesfunc5 X2))\Rightarrow(k1_relset_1 \\ & \quad X0 (k4_mesfunc1 X0 X1 X2) = k9_subset_1 X0 (k1_relset_1 X0 X1) (k1_relset_1 \\ & \quad X0 X2)))) \end{aligned}$$