

t7_aofa_i00 (TMLTmH- gRe9KGFAgpAytE4tBvH1EFJR2Ni1G)

October 27, 2020

Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v2_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $np_0 : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$(k9_xtuple_0 k1_xboole_0 = k1_xboole_0) \wedge (k10_xtuple_0 k1_xboole_0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$k1_card_1 k1_xboole_0 = k1_xboole_0 \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow & ((v1_funct_1 X0) \wedge \\ ((v1_funct_2 X0 (k9_xtuple_0 X0) (k10_xtuple_0 X0)) \wedge & (m1_subset_1 \\ X0 (k1_zfmisc_1 (k2_zfmisc_1 (k9_xtuple_0 X0) (k10_xtuple_0 X0)))))) & \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v2_funct_1 X0))) \Rightarrow (k1_card_1 X0 = k1_card_1 (k10_xtuple_0 X0)) \quad (5)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(v2_funct_2 X1 X0)\Leftrightarrow(k2_relset_1 X0 X1 = X0) \quad (9)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ &(k2_zfmisc_1 X0 X1)))\Rightarrow(((X1\neq k1_xboole_0)\Rightarrow((v1_funct_2 X2 X0 \\ &X1)\Leftrightarrow(X0 = k1_relset_1 X0 X2)))\wedge((X1 = k1_xboole_0)\Rightarrow((v1_funct_2 \\ &X2 X0 X1)\Leftrightarrow(X2 = k1_xboole_0)))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (11)$$

Theorem 1

$$\begin{aligned} &\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow(((\\ &v1_funct_1 X1)\wedge((v2_funct_1 X1)\wedge((v1_funct_2 X1 (k1_card_1 X0) \\ &X0)\wedge((v2_funct_2 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ &(k1_card_1 X0) X0))))))\Leftrightarrow((k9_xtuple_0 X1 = k1_card_1 X0)\wedge((k10_xtuple_0 \\ &X1 = X0)\wedge(v2_funct_1 X1)))) \end{aligned}$$