

t32_fomodel0 (TMY- oYTV4pJVoKd1qnFzJDKuUMcQ8jCj75)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_fomodel0 : \iota \Rightarrow \iota$ be given. Let $k5_fomodel0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k11_monoid_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_fomodel0 : \iota \Rightarrow \iota$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k14_fomodel0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ & (k1_funct_4 X2 X1) X0 = k1_funct_1 X1 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((\neg X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ & (k1_funct_4 X2 X1) X0 = k1_funct_1 X2 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (k8_fomodel0 X0 = k7_fomodel0 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k7_funcop_1 X0 X1 = k2_funcop_1 X0 X1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (7)$$

Assume the following.

$$\forall X0.k3_finseq_2 X0 = k13_finseq_1 X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k2_zfmisc_1 X0 X1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v3_relat_1 X0)\wedge(v1_funct_1 X0)))\Rightarrow(v1_xboole_0 (k1_funct_1 X0 X1)) \quad (10)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k13_finseq_1 X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(v1_funct_1 (k7_funcop_1 X0 X1))\wedge((v1_funct_2 (k7_funcop_1 X0 X1) X0 (k1_tarski X1))\wedge(m1_subset_1 (k7_funcop_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 (k1_tarski X1)))))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))))\Rightarrow((v1_funct_1 (k5_fomodel0 X0 X1))\wedge((v1_funct_2 (k5_fomodel0 X0 X1) (k6_subset_1 (k3_finseq_2 X0) (k1_tarski k1_xboole_0)) X0)\wedge(m1_subset_1 (k5_fomodel0 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k6_subset_1 (k3_finseq_2 X0) (k1_tarski k1_xboole_0)) X0)))))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.m1_subset_1 (k14_fomodel0 X0 X1) (k1_zfmisc_1 X0) \quad (14)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow((v1_funct_1 (k11_monoid_0 X0))\wedge((v1_funct_2 (k11_monoid_0 X0) (k2_zfmisc_1 (k3_finseq_2 X0) (k3_finseq_2 X0)) (k3_finseq_2 X0))\wedge(m1_subset_1 (k11_monoid_0 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k3_finseq_2 X0) (k3_finseq_2 X0)) (k3_finseq_2 X0)))))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.k16_funcop_1 X0 X1 = k7_funcop_1 (k1_tarski X0) X1 \quad (16)$$

Assume the following.

$$k1_xboole_0 = the (\lambda X0 : \iota.v1_xboole_0 X0) \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.\forall X2. \\ ((X1 \in k9_xtuple_0 X0) \Rightarrow ((X2 = k1_funct_1 X0 X1) \Leftrightarrow (k4_tarski X1 X2 \in \\ X0))) \wedge ((\neg X1 \in k9_xtuple_0 X0) \Rightarrow ((X2 = k1_funct_1 X0 X1) \Leftrightarrow (X2 = k1_xboole_0)))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.k2_funcop_1 X0 X1 = k2_zfmisc_1 X0 (k1_tarski X1) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.k14_fomodel0 X0 X1 = k6_subset_1 X0 X1 \quad (20)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (k7_fomodel0 X0 = k1_funct_4 (k16_funcop_1 k1_xboole_0 k1_xboole_0) (k5_fomodel0 (k3_finseq_2 X0) (k11_monoid_0 X0))) \quad (21)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v5_relat_1 X0 (k1_tarski k1_xboole_0))) \Rightarrow ((v1_relat_1 X0) \wedge (v3_relat_1 X0)) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (24)$$

Theorem 1

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (k1_funct_1 (k8_fomodel0 X1) X0 = k1_funct_1 (k5_fomodel0 (k3_finseq_2 X1) (k11_monoid_0 X1)) X0)$$