

l41_fomodel0 (TMQdUZeXBEvEdK- oUEiT9xbVmv5BwkKLjgb)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ 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 $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_relat_1 : \iota \Rightarrow o$ 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 $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. r1_xboole_0 (k4_xboole_0 X0 X1) X1 \quad (2)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. k4_xboole_0 X0 k1_xboole_0 = X0 \quad (5)$$

Assume the following.

$$\forall X0. k3_xboole_0 X0 k1_xboole_0 = k1_xboole_0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarSKI X0 X0 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k7_funcop_1 X0 X1 = k2_funcop_1 X0 X1 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (9)$$

Assume the following.

$$\forall X0.k3_finseq_2 X0 = k13_finseq_1 X0 \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(\quad (11)$$

$$k1_relset_1 X0 X1 = k9_xtuple_0 X1)$$

Assume the following.

$$\forall X0.\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(v1_xboole_0 \quad (12)$$

$$X1)$$

Assume the following.

$$\forall X0.\forall X1.\exists X2.(m1_subset_1 X2 (k1_zfmisc_1 \quad (13)$$

$$(k2_zfmisc_1 X0 X1))\wedge((v1_xboole_0 X2)\wedge((v1_relat_1 X2)\wedge(($$

$$v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1))))))$$

Assume the following.

$$\forall X0.\forall X1.\exists X2.(m1_subset_1 X2 (k1_zfmisc_1 \quad (14)$$

$$(k2_zfmisc_1 X0 X1))\wedge((v1_relat_1 X2)\wedge((v4_relat_1 X2 X0)\wedge($$

$$v5_relat_1 X2 X1)\wedge((v1_funct_1 X2)\wedge(v1_funct_2 X2 X0 X1))))))$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0)\wedge(v1_relat_1 X0))\Rightarrow(\neg v1_xboole_0 \quad (15)$$

$$(k9_xtuple_0 X0))$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k2_zfmisc_1 X0 X1) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0 X1)\Rightarrow(v1_xboole_0 (k2_zfmisc_1 \quad (17)$$

$$X0 X1))$$

Assume the following.

$$\forall X0.v1_xboole_0 (k2_funcop_1 k1_xboole_0 X0) \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1_relat_1 (k2_funcop_1 X0 X1)) \wedge ((v4_relat_1 \\ (k2_funcop_1 X0 X1) X0) \wedge ((v1_funct_1 (k2_funcop_1 X0 X1)) \wedge (v1_partfun1 \\ (k2_funcop_1 X0 X1) X0))) \end{aligned} \quad (19)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 (k2_funcop_1 X0 X1)) \wedge (v1_funct_1 \\ (k2_funcop_1 X0 X1)) \quad (21)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k13_finseq_1 X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_xboole_0 (k9_xtuple_0 X0)) \quad (23)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1_funct_1 (k7_funcop_1 X0 X1)) \wedge ((v1_funct_2 \\ (k7_funcop_1 X0 X1) X0 (k1_tarski X1)) \wedge (m1_subset_1 (k7_funcop_1 \\ X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 (k1_tarski X1)))))) \end{aligned} \quad (24)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 X1) \wedge (\\ (v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow ((v1_funct_1 (k5_fomodel0 \\ X0 X1)) \wedge ((v1_funct_2 (k5_fomodel0 X0 X1) (k6_subset_1 (k3_finseq_2 \\ X0) (k1_tarski k1_xboole_0)) X0) \wedge (m1_subset_1 (k5_fomodel0 X0 \\ X1) (k1_zfmisc_1 (k2_zfmisc_1 (k6_subset_1 (k3_finseq_2 X0) (\\ k1_tarski k1_xboole_0)) X0)))))) \end{aligned} \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\ m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (26)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow ((v1_funct_1 (k11_monoid_0 X0)) \wedge \\ ((v1_funct_2 (k11_monoid_0 X0) (k2_zfmisc_1 (k3_finseq_2 X0) \\ (k3_finseq_2 X0)) (k3_finseq_2 X0)) \wedge (m1_subset_1 (k11_monoid_0 \\ X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k3_finseq_2 X0) (\\ k3_finseq_2 X0)) (k3_finseq_2 X0)))))) \end{aligned} \quad (27)$$

Assume the following.

$$\forall X0.\forall X1.k16_funcop_1 X0 X1 = k7_funcop_1 (k1_tarSKI X0) X1 \quad (28)$$

Assume the following.

$$\forall X0.\forall X1.(r1_xboole_0 X0 X1) \Leftrightarrow (k3_xboole_0 X0 X1 = k1_xboole_0) \quad (29)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\ v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((r1_partfun1 X0 X1) \Leftrightarrow (\forall X2. \\ (X2 \in k3_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 X1)) \Rightarrow (k1_funct_1 \\ X0 X2 = k1_funct_1 X1 X2)))) \end{aligned} \quad (30)$$

Assume the following.

$$\forall X0.\forall X1.k2_funcop_1 X0 X1 = k2_zfmisc_1 X0 (k1_tarSKI X1) \quad (31)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1))) \Rightarrow (((X1 \neq k1_xboole_0) \Rightarrow ((v1_funct_2 X2 X0 \\ X1) \Leftrightarrow (X0 = k1_relset_1 X0 X2))) \wedge ((X1 = k1_xboole_0) \Rightarrow ((v1_funct_2 \\ X2 X0 X1) \Leftrightarrow (X2 = k1_xboole_0)))) \end{aligned} \quad (32)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (33)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\ \forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X1)) \Rightarrow (v4_relat_1 X2 X0)) \end{aligned} \quad (34)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \Rightarrow ((v1_funct_2 X1 X0 X0) \Rightarrow (v1_partfun1 X1 X0)) \quad (35)$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_xboole_0 X2)) \quad (36)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \quad (37)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_relat_1 X1)) \quad (38)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (v1_xboole_0 X1)) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow \\ & (\neg v1_partfun1 X2 X0)) \end{aligned} \quad (39)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (40)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_relat_1 X0) \quad (41)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_partfun1 X2 X0) \Rightarrow (v1_funct_2 X2 X0 X1)) \end{aligned} \quad (42)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_funct_1 X0) \quad (43)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (r1_partfun1 (k16_funcop_1 k1_xboole_0 k1_xboole_0) (k5_fomodel0 (k3_finseq_2 X0) (k11_monoid_0 X0)))$$