

l101_fomodel0
(TMcCQ2oR3ajyPEnZZyDSATiiBapfdN7rS32)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_fomodel0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_monoid_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_fomodel0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_finseq_1 X1 X0) \wedge (m1_finseq_1 X2 X0)) \Rightarrow (k1_monoid_0 X0 X1 X2 = k7_finseq_1 X1 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. (m1_subset_1 \\ X2 X1) \Rightarrow (\forall X3. ((v1_relat_1 X3) \wedge ((v5_relat_1 X3 X1) \wedge ((v1_funct_1 \\ X3) \wedge (v1_finseq_1 X3)))) \Rightarrow (\forall X4. ((v1_relat_1 X4) \wedge ((v5_relat_1 \\ X4 X1) \wedge ((v1_funct_1 X4) \wedge (v1_finseq_1 X4)))) \Rightarrow (k19_fomodel0 X1 \\ X0 X2 (k7_finseq_1 X3 X4) = k1_monoid_0 X1 (k19_fomodel0 X1 X0 X2 X3) \\ (k19_fomodel0 X1 X0 X2 X4)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((v1_relat_1 \\ X1) \wedge ((v5_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1)))) \wedge \\ ((v1_relat_1 X2) \wedge ((v5_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 \\ X2)))))) \Rightarrow ((v1_relat_1 (k7_finseq_1 X1 X2)) \wedge ((v5_relat_1 (k7_finseq_1 \\ X1 X2) X0) \wedge ((v1_funct_1 (k7_finseq_1 X1 X2)) \wedge (v1_finseq_1 (k7_finseq_1 \\ X1 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 \\ X0)))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1))))\Rightarrow \\ ((v1_relat_1 (k7_finseq_1 X0 X1))\wedge((v1_funct_1 (k7_finseq_1 \\ X0 X1))\wedge(v1_finseq_1 (k7_finseq_1 X0 X1)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 \\ X2 X0))\Rightarrow((v1_funct_1 (k20_fomodel0 X0 X1 X2))\wedge((v1_funct_2 (k20_fomodel0 \\ X0 X1 X2) (k3_finseq_2 X0) (k3_finseq_2 X0))\wedge(m1_subset_1 (k20_fomodel0 \\ X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (k3_finseq_2 X0) (k3_finseq_2 \\ X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ ((m1_subset_1 X2 X0)\wedge((v1_relat_1 X3)\wedge((v5_relat_1 X3 X0)\wedge((\\ v1_funct_1 X3)\wedge(v1_finseq_1 X3))))))\Rightarrow(m2_finseq_1 (k19_fomodel0 \\ X0 X1 X2 X3) X0) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.\forall X2.(m1_subset_1 \\ X2 X0)\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge((v1_funct_2 X3 (k3_finseq_2 \\ X0) (k3_finseq_2 X0))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ (k3_finseq_2 X0) (k3_finseq_2 X0))))))\Rightarrow((X3 = k20_fomodel0 X0 \\ X1 X2)\Leftrightarrow(\forall X4.((v1_relat_1 X4)\wedge((v5_relat_1 X4 X0)\wedge((v1_funct_1 \\ X4)\wedge(v1_finseq_1 X4))))\Rightarrow(k1_funct_1 X3 X4 = k19_fomodel0 X0 X1 \\ X2 X4)))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(\forall X2.(m1_subset_1 \\ X2 X1)\Rightarrow(\forall X3.((v1_relat_1 X3)\wedge((v5_relat_1 X3 X1)\wedge((v1_funct_1 \\ X3)\wedge(v1_finseq_1 X3))))\Rightarrow(\forall X4.((v1_relat_1 X4)\wedge((v5_relat_1 \\ X4 X1)\wedge((v1_funct_1 X4)\wedge(v1_finseq_1 X4))))\Rightarrow(k1_funct_1 (k20_fomodel0 \\ X1 X0 X2) (k7_finseq_1 X3 X4) = k7_finseq_1 (k1_funct_1 (k20_fomodel0 \\ X1 X0 X2) X3) (k1_funct_1 (k20_fomodel0 X1 X0 X2) X4)))))) \end{aligned}$$