

t67_chain_1 (TMNpBVoGBp- fAnUUj8FXMMCXoSTPP4brh7yG)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_chain_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m3_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k10_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $v2_finseq_1 : \iota \Rightarrow o$ be given. Let $k6_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_abian : \iota \Rightarrow o$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge (m2_subset_1 X1 k1_numbers k5_numbers)) \Rightarrow \\ & (\forall X2.(m1_chain_1 X2 X1) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k4_chain_1 X1 X2 (k2_nat_1 X0 np_1)))) \Rightarrow ((m3_chain_1 X3 X1 X2 (\\ & k2_nat_1 X0 np_1)) \Leftrightarrow (k10_chain_1 X1 X2 X0 X3 = k5_chain_1 X1 X2 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m1_chain_1 X1 (k2_nat_1 X0 np_1)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k4_chain_1 (k2_nat_1 X0 np_1) X1 (k2_nat_1 X0 \\ & np_1)))) \Rightarrow (k10_chain_1 (k2_nat_1 X0 np_1) X1 X0 (k3_subset_1 \\ & (k4_chain_1 (k2_nat_1 X0 np_1) X1 (k2_nat_1 X0 np_1)) X2) = k10_chain_1 \\ & (k2_nat_1 X0 np_1) X1 X0 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarSKI X0 X1)\Rightarrow(k3_xboole_0 X0 X1 = X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.k4_xboole_0 X0 X1 = k5_xboole_0 X0 (k3_xboole_0 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X0 k5_numbers))\wedge((m1_chain_1 X1 X0)\wedge((m1_subset_1 X2 k5_numbers)\wedge((m1_subset_1 X3 (k1_zfmisc_1 (k4_chain_1 X0 X1 X2))))\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k4_chain_1 X0 X1 X2))))))\Rightarrow(k7_chain_1 X0 X1 X2 X3 X4 = k5_xboole_0 X3 X4) \quad (7)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (8)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (9)$$

Assume the following.

$$\exists X0.(v1_relat_1 X0)\wedge((v2_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge((v1_funct_1 X0)\wedge((\neg v1_xboole_0 X0)\wedge((v1_finset_1 X0)\wedge((v1_finseq_1 X0)\wedge(v2_finseq_1 X0))))))) \quad (10)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X0 k5_numbers))\wedge((m1_chain_1 X1 X0)\wedge(m1_subset_1 X2 k5_numbers)))\Rightarrow(\forall X3.(m3_chain_1 X3 X0 X1 X2)\Rightarrow(m1_subset_1 X3 (k1_zfmisc_1 (k4_chain_1 X0 X1 X2)))) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v1_xboole_0 \\ & X0)\wedge(m1_subset_1 X0 k5_numbers)\wedge((m1_chain_1 X1 X0)\wedge((m1_subset_1 \\ & X2 k5_numbers)\wedge((m1_subset_1 X3 (k1_zfmisc_1 (k4_chain_1 X0 X1 \\ & X2)))\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k4_chain_1 X0 X1 X2))))))\Rightarrow \\ & (m1_subset_1 (k7_chain_1 X0 X1 X2 X3 X4) (k1_zfmisc_1 (k4_chain_1 \\ & X0 X1 X2))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X0 k5_numbers)\wedge \\ & (m1_chain_1 X1 X0))\Rightarrow(m1_subset_1 (k6_chain_1 X0 X1) (k1_zfmisc_1 \\ & (k4_chain_1 X0 X1 X0))) \end{aligned} \quad (14)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0)\wedge(m2_subset_1 X0 k1_numbers k5_numbers))\Rightarrow \\ & (\forall X1.(m1_chain_1 X1 X0)\Rightarrow(k6_chain_1 X0 X1 = k4_chain_1 X0 \\ & X1 X0)) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(k3_subset_1 \\ & X0 X1 = k4_xboole_0 X0 X1) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0)\wedge(m2_subset_1 X0 k1_numbers k5_numbers))\Rightarrow \\ & (\forall X1.(m1_chain_1 X1 X0)\Rightarrow(\forall X2.(m2_subset_1 X2 k1_numbers \\ & k5_numbers)\Rightarrow(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (k4_chain_1 \\ & X0 X1 X2))\Rightarrow((m3_chain_1 X3 X0 X1 X2)\Leftrightarrow(\neg(\neg(X2 = k6_numbers)\wedge(v1_abian \\ & (k5_card_1 X3))))\wedge(\forall X4.(m2_subset_1 X4 k1_numbers k5_numbers)\Rightarrow \\ & (\neg(X2 = k2_nat_1 X4 np_1)\wedge(\exists X5.(m1_subset_1 X5 (k1_zfmisc_1 \\ & (k4_chain_1 X0 X1 (k2_nat_1 X4 np_1))))\wedge((X5 = X3)\wedge(k10_chain_1 \\ & X0 X1 X4 X5 = k5_chain_1 X0 X1 X4)))))))))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.k5_xboole_0 X0 X1 = k5_xboole_0 X1 X0 \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (20)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 \\ X1 X0)) \Rightarrow ((v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)))) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \Rightarrow (v1_xboole_0 X1)) \end{aligned} \quad (22)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\ (\forall X1.(m1_chain_1 X1 X0) \Rightarrow (\forall X2.(m3_chain_1 X2 X0 X1 \\ X0) \Rightarrow (m3_chain_1 (k3_subset_1 (k4_chain_1 X0 X1 X0) X2) X0 X1 X0))) \end{aligned}$$