

t14_mesfun9c
(TMRrpmQogWy5nii4naqwmRqQni2DL92ns6d)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k5_numbers : \iota$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_mesfunc8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_series_1 : \iota \Rightarrow \iota$ be given. Let $k10_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_seq_2 : \iota \Rightarrow \iota$ be given. Let $k2_mesfun9c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k3_series_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\ & v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (((k9_xtuple_0 X0 = k9_xtuple_0 \\ & X1) \wedge (\forall X2.(X2 \in k9_xtuple_0 X0) \Rightarrow (k1_funct_1 X0 X2 = k1_funct_1 \\ & X1 X2)))) \Rightarrow (X0 = X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\ & (\forall X2. (v7_ordinal1 X2) \Rightarrow (\forall X3. (m1_subset_1 X3 X0) \Rightarrow \\ & (\forall X4. ((v1_mesfunc8 X1 X0 k1_numbers) \wedge ((r1_tarski X4 (k1_relset_1 \\ & X0 (k4_mesfunc5 X0 k1_numbers X1 k6_numbers)) \wedge (X3 \in X4))) \Rightarrow (k1_seq_1 \\ & (k3_series_1 (k10_seqfunc X0 X1 X3)) X2 = k1_seq_1 (k10_seqfunc \\ & X0 (k2_mesfun9c X0 X1) X3) X2)))))) \end{aligned} \tag{3}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v3_valued_0 X0)))\Rightarrow(k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (6)$$

Assume the following.

$$v3_membered k1_numbers \quad (7)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (8)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (9)$$

Assume the following.

$$\begin{aligned} &\forall X0.((v1_funct_1 X0)\wedge((v1_funct_2 X0 k5_numbers k1_numbers)\wedge \\ &(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers))))))\Rightarrow \\ &((v1_funct_1 (k3_series_1 X0))\wedge((v1_funct_2 (k3_series_1 X0) \\ &k5_numbers k1_numbers)\wedge(m1_subset_1 (k3_series_1 X0) (k1_zfmisc_1 \\ &(k2_zfmisc_1 k5_numbers k1_numbers)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge \\ &(v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 \\ &X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers))))))\Rightarrow \\ &((v1_funct_1 (k2_mesfun9c X0 X1))\wedge((v1_funct_2 (k2_mesfun9c \\ &X0 X1) k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 (\\ &k2_mesfun9c X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ &X0 k1_numbers)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((v1_funct_1 \\ & X1)\wedge((v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers))\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ & X0 k1_numbers))))))\wedge(m1_subset_1 X2 X0)))\Rightarrow((v1_funct_1 (k10_seqfunc \\ & X0 X1 X2))\wedge((v1_funct_2 (k10_seqfunc X0 X1 X2) k5_numbers k1_numbers)\wedge \\ & (m1_subset_1 (k10_seqfunc X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers k1_numbers)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0)\wedge((v1_funct_2 X0 k5_numbers k1_numbers)\wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))\Rightarrow \\ & (k4_series_1 X0 = k2_seq_2 (k3_series_1 X0)) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow(((X1\neq k1_xboole_0)\Rightarrow((v1_funct_2 X2 X0 \\ & X1)\Leftrightarrow(X0 = k1_relset_1 X0 X2)))\wedge((X1 = k1_xboole_0)\Rightarrow((v1_funct_2 \\ & X2 X0 X1)\Leftrightarrow(X2 = k1_xboole_0)))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v3_membered X1)\Rightarrow(\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v3_valued_0 X2)) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v6_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow \\ & (v7_ordinal1 X1)) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k5_numbers))\Rightarrow(v6_membered \\ & X0) \end{aligned} \quad (20)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\ & (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k1_numbers)))) \Rightarrow (\forall X3.(m1_subset_1 X3 X0) \Rightarrow (((v1_mesfunc8 \\ & X1 X0 k1_numbers) \wedge (r1_tarski (k1_relset_1 X0 X2) (k1_relset_1 \\ & X0 (k4_mesfunc5 X0 k1_numbers X1 k6_numbers))) \wedge ((X3 \in k1_relset_1 \\ & X0 X2) \wedge (k1_seq_1 X2 X3 = k4_series_1 (k10_seqfunc X0 X1 X3)))))) \Rightarrow \\ & (k1_seq_1 X2 X3 = k2_seq_2 (k10_seqfunc X0 (k2_mesfun9c X0 X1) X3)))))) \end{aligned}$$