

t37_mesfun9c
(TMEnY6F5BeKVzsHnqCqjtpziZnTjtDr9pGm)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_prob_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_prob_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ 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 $k2_numbers : \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_mesfun9c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_mesfunc6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_comseq_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_comseq_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k2_mesfun9c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k3_rfunct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge \\ & ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow ((r1_mesfun7c \\ & X0 X1 X2) \Leftrightarrow ((r2_mesfunc6 X0 X1 (k5_comseq_3 X0 X2)) \wedge (r2_mesfunc6 \\ & X0 X1 (k6_comseq_3 X0 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k2_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k2_numbers)))))) \Rightarrow \\ & ((r2_funct_2 k5_numbers (k4_partfun1 X0 k1_numbers) (k2_mesfun9c \\ & X0 (k11_mesfun7c X0 X1)) (k11_mesfun7c X0 (k3_mesfun9c X0 X1))) \wedge \\ & (r2_funct_2 k5_numbers (k4_partfun1 X0 k1_numbers) (k2_mesfun9c \\ & X0 (k12_mesfun7c X0 X1)) (k12_mesfun7c X0 (k3_mesfun9c X0 X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k2_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k2_numbers)))))) \Rightarrow \\ & (\forall X2.(v7_ordinal1 X2) \Rightarrow ((r2_relset_1 X0 k1_numbers (k4_mesfunc5 \\ & X0 k1_numbers (k11_mesfun7c X0 X1) X2) (k5_comseq_3 X0 (k4_mesfunc5 \\ & X0 k2_numbers X1 X2))) \wedge (r2_relset_1 X0 k1_numbers (k4_mesfunc5 \\ & X0 k1_numbers (k12_mesfun7c X0 X1) X2) (k6_comseq_3 X0 (k4_mesfunc5 \\ & X0 k2_numbers X1 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\ & ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow (\forall X3. \\ & (v7_ordinal1 X3) \Rightarrow ((\forall X4.(v7_ordinal1 X4) \Rightarrow (r2_mesfunc6 \\ & X0 X1 (k4_mesfunc5 X0 k1_numbers X2 X4)) \Rightarrow (r2_mesfunc6 X0 X1 (k4_mesfunc5 \\ & X0 k1_numbers (k2_mesfun9c X0 X2) X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 k5_numbers (k3_rfunct_3 X0 X1)) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k3_rfunct_3 X0 X1)))))) \wedge \\ & (v7_ordinal1 X3) \Rightarrow (k4_mesfunc5 X0 X1 X2 X3 = k1_funct_1 X2 X3)) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k3_rfunct_3 X0 X1 = k4_partfun1 X0 X1 \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 k2_numbers))))\Rightarrow((v1_funct_1 (k6_comseq_3 X0 \\ X1))\wedge(m1_subset_1 (k6_comseq_3 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k1_numbers)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 k2_numbers))))\Rightarrow((v1_funct_1 (k5_comseq_3 X0 \\ X1))\wedge(m1_subset_1 (k5_comseq_3 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k1_numbers)))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2)\wedge \\ ((v1_funct_2 X2 k5_numbers (k3_rfunct_3 X0 X1))\wedge(m1_subset_1 \\ X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k3_rfunct_3 X0 X1))))))\wedge \\ (v7_ordinal1 X3))\Rightarrow((v1_funct_1 (k4_mesfunc5 X0 X1 X2 X3))\wedge(m1_subset_1 \\ (k4_mesfunc5 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge(\\ (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k2_numbers))\wedge(m1_subset_1 \\ X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k2_numbers))))))\Rightarrow \\ ((v1_funct_1 (k3_mesfun9c X0 X1))\wedge((v1_funct_2 (k3_mesfun9c \\ X0 X1) k5_numbers (k4_partfun1 X0 k2_numbers))\wedge(m1_subset_1 (\\ k3_mesfun9c X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ X0 k2_numbers)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge(\\ (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 \\ X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers))))))\Rightarrow \\ ((v1_funct_1 (k2_mesfun9c X0 X1))\wedge((v1_funct_2 (k2_mesfun9c \\ X0 X1) k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 (\\ k2_mesfun9c X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ X0 k1_numbers)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k2_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k2_numbers)))))) \Rightarrow \\ & ((v1_funct_1 (k12_mesfun7c X0 X1)) \wedge ((v1_funct_2 (k12_mesfun7c \\ & X0 X1) k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 (\\ & k12_mesfun7c X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ & X0 k1_numbers)))))) \end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k2_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k2_numbers)))))) \Rightarrow \\ & ((v1_funct_1 (k11_mesfun7c X0 X1)) \wedge ((v1_funct_2 (k11_mesfun7c \\ & X0 X1) k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 (\\ & k11_mesfun7c X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ & X0 k1_numbers)))))) \end{aligned} \tag{16}$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge \\ & ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2. (v7_ordinal1 X2) \Rightarrow (\forall X3. \\ & ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 k5_numbers (k4_partfun1 X0 k2_numbers)) \wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ & X0 k2_numbers)))))) \Rightarrow ((\forall X4. (v7_ordinal1 X4) \Rightarrow (r1_mesfun7c \\ & X0 X1 (k4_mesfunc5 X0 k2_numbers X3 X4)) \Rightarrow (r1_mesfun7c X0 X1 (k4_mesfunc5 \\ & X0 k2_numbers (k3_mesfun9c X0 X3) X2)))))) \end{aligned}$$