

t21_mesfun9c

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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 $k2_numbers : \iota$ 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 $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k11_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_mesfun9c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. \forall X2. ((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 k5_numbers (k4_partfun1 X0 k2_numbers)) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ & X0 k2_numbers)))))) \Rightarrow (\forall X3. (v7_ordinal1 X3) \Rightarrow ((r2_relset_1 \\ & X0 k1_numbers (k4_mesfunc5 X0 k1_numbers (k11_mesfun7c X0 (k1_mesfun9c \\ & X0 k2_numbers X2 X1)) X3) (k2_partfun1 X0 k1_numbers (k4_mesfunc5 \\ & X0 k1_numbers (k11_mesfun7c X0 X2) X3) X1)) \wedge (r2_relset_1 X0 k1_numbers \\ & (k4_mesfunc5 X0 k1_numbers (k12_mesfun7c X0 (k1_mesfun9c X0 k2_numbers \\ & X2 X1)) X3) (k2_partfun1 X0 k1_numbers (k4_mesfunc5 X0 k1_numbers \\ & (k12_mesfun7c X0 X2) X3) X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge \\ & ((v1_funct_2 X2 k5_numbers (k4_partfun1 X0 X1))\wedge(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 X1))))))\Rightarrow \\ & ((v1_funct_1 (k1_mesfun9c X0 X1 X2 X3))\wedge((v1_funct_2 (k1_mesfun9c \\ & X0 X1 X2 X3) k5_numbers (k4_partfun1 X0 X1))\wedge(m1_subset_1 (k1_mesfun9c \\ & X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ & X0 X1)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge(\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k2_numbers))\wedge(m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k2_numbers))))))\Rightarrow \\ & ((v1_funct_1 (k11_mesfun7c X0 X1))\wedge((v1_funct_2 (k11_mesfun7c \\ & X0 X1) k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 (\\ & k11_mesfun7c X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ & X0 k1_numbers)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 \\ & X2 k5_numbers (k4_partfun1 X0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 X1))))))\Rightarrow(\forall X3. \\ & \forall X4.((v1_funct_1 X4)\wedge((v1_funct_2 X4 k5_numbers (k4_partfun1 \\ & X0 X1))\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ & (k4_partfun1 X0 X1))))))\Rightarrow((X4 = k1_mesfun9c X0 X1 X2 X3)\Leftrightarrow(\forall X5. \\ & (v7_ordinal1 X5)\Rightarrow(r2_relset_1 X0 X1 (k4_mesfunc5 X0 X1 X4 X5) (k2_partfun1 \\ & X0 X1 (k4_mesfunc5 X0 X1 X2 X5) X3)))) \end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.\forall X2.((v1_funct_1 \\ & X2)\wedge((v1_funct_2 X2 k5_numbers (k4_partfun1 X0 k2_numbers))\wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ & X0 k2_numbers))))))\Rightarrow(r2_funct_2 k5_numbers (k4_partfun1 X0 k1_numbers) \\ & (k11_mesfun7c X0 (k1_mesfun9c X0 k2_numbers X2 X1)) (k1_mesfun9c \\ & X0 k1_numbers (k11_mesfun7c X0 X2) X1))) \end{aligned}$$