

t11_mesfun9c

(TMZA9EnTQvyngWbgRG1HSU1pU4R4fcGPGJu)

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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 $k1_numbers : \iota$ 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 $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_mesfunc8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_mesfun9c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v2_mesfunc9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_numbers : \iota$ be given. Let $k4_mesfunc9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ 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.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\ & (v2_mesfunc9 (k1_mesfun7c X0 X1) X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\ & (r2_funct_2 k5_numbers (k4_partfun1 X0 k7_numbers) (k4_mesfunc9 \\ & X0 (k1_mesfun7c X0 X1)) (k1_mesfun7c X0 (k2_mesfun9c X0 X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k7_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k7_numbers)))))) \Rightarrow \\ & (\forall X2.(v7_ordinal1 X2) \Rightarrow (((v2_mesfunc9 X1 X0) \wedge (v1_mesfunc8 \\ & X1 X0 k7_numbers)) \Rightarrow (k1_relset_1 X0 (k4_mesfunc5 X0 k7_numbers \\ & (k4_mesfunc9 X0 X1) X2) = k1_relset_1 X0 (k4_mesfunc5 X0 k7_numbers \\ & X1 k6_numbers)))))) \end{aligned} \quad (3)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (5)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (6)$$

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.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge ((v1_mesfunc8 \\ & X1 X0 k1_numbers) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ & (k4_partfun1 X0 k1_numbers)))))) \Rightarrow ((v1_funct_1 (k1_mesfun7c \\ & X0 X1)) \wedge ((v1_funct_2 (k1_mesfun7c X0 X1) k5_numbers (k4_partfun1 \\ & X0 k7_numbers)) \wedge (v1_mesfunc8 (k1_mesfun7c X0 X1) X0 k7_numbers))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k7_numbers))\wedge(m1_subset_1 \\ X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k7_numbers))))))\Rightarrow \\ & ((v1_funct_1 (k4_mesfunc9 X0 X1))\wedge((v1_funct_2 (k4_mesfunc9 \\ X0 X1) k5_numbers (k4_partfun1 X0 k7_numbers))\wedge(m1_subset_1 (\\ k4_mesfunc9 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ X0 k7_numbers)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge(\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 \\ X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers))))))\Rightarrow \\ & ((v1_funct_1 (k2_mesfun9c X0 X1))\wedge((v1_funct_2 (k2_mesfun9c \\ X0 X1) k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 (\\ k2_mesfun9c X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ X0 k1_numbers)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge(\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 \\ X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers))))))\Rightarrow \\ & ((v1_funct_1 (k1_mesfun7c X0 X1))\wedge((v1_funct_2 (k1_mesfun7c \\ X0 X1) k5_numbers (k4_partfun1 X0 k7_numbers))\wedge(m1_subset_1 (\\ k1_mesfun7c X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ X0 k7_numbers)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge(\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 \\ X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers))))))\Rightarrow \\ & (k1_mesfun7c X0 X1 = X1)) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge(\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 \\ X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers))))))\Rightarrow \\ & (\forall X2.(v7_ordinal1 X2)\Rightarrow((v1_mesfunc8 X1 X0 k1_numbers)\Rightarrow \\ & (k1_relset_1 X0 (k4_mesfunc5 X0 k1_numbers (k2_mesfun9c X0 X1) \\ X2) = k1_relset_1 X0 (k4_mesfunc5 X0 k1_numbers X1 k6_numbers)))) \end{aligned}$$