

t15_mesfun7c

(TMK6HETdbs3VdFScwVDEhBXecbGgUUQGBVB)

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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 $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_comseq_2 : \iota \Rightarrow o$ be given. Let $k10_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_supinf_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_numbers : \iota$ be given. Let $v10_mesfunc5 : \iota \Rightarrow o$ be given. Let $k2_mesfunc5 : \iota \Rightarrow \iota$ be given. Let $k6_rinfsup2 : \iota \Rightarrow \iota$ be given. Let $k5_rinfsup2 : \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_mesfunc5 : \iota \Rightarrow o$ be given. Let $k2_seq_2 : \iota \Rightarrow \iota$ be given. Let $k1_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_mesfunc8 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k3_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_mesfunc8 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_mesfunc8 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k7_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))))) \Rightarrow \\ & ((v10_mesfunc5 X0) \Rightarrow ((k2_mesfunc5 X0 = k6_rinfsup2 X0) \wedge (k2_mesfunc5 \\ & X0 = k5_rinfsup2 X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k7_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))))) \Rightarrow \\ & (\forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & (((r1_funct_2 k5_numbers k7_numbers k5_numbers k1_numbers X0 \\ & X1) \wedge (v2_comseq_2 X1)) \Rightarrow ((v7_mesfunc5 X0) \wedge ((v10_mesfunc5 X0) \wedge \\ & (k2_mesfunc5 X0 = k2_seq_2 X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 X0) \Rightarrow ((X2 \in k1_relset_1 X0 (k8_mesfun7c \\ & X0 X1)) \Rightarrow (k12_supinf_2 (k8_mesfun7c X0 X1) X2 = k2_mesfunc5 (k1_mesfunc5 \\ & k5_numbers (k10_seqfunc X0 X1 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 X0) \Rightarrow ((X2 \in k1_relset_1 X0 (k7_mesfun7c \\ & X0 X1)) \Rightarrow (k12_supinf_2 (k7_mesfun7c X0 X1) X2 = k5_rinfsup2 (k1_mesfunc5 \\ & k5_numbers (k10_seqfunc X0 X1 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 X0) \Rightarrow ((X2 \in k1_relset_1 X0 (k6_mesfun7c \\ & X0 X1)) \Rightarrow (k12_supinf_2 (k6_mesfun7c X0 X1) X2 = k6_rinfsup2 (k1_mesfunc5 \\ & k5_numbers (k10_seqfunc X0 X1 X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X3) \wedge (((v1_funct_1 X4) \wedge ((\\ & v1_funct_2 X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X2 X3) \wedge (m1_subset_1 \\ & X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3))))))))) \Rightarrow (r1_funct_2 X0 X1 X2 \\ & X3 X4 X4) \end{aligned} \quad (6)$$

Assume the following.

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

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (8)$$

Assume the following.

$$\neg v1_xboole_0 k7_numbers \quad (9)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers))))))\Rightarrow \\ & ((v1_funct_1 (k8_mesfun7c X0 X1))\wedge(m1_subset_1 (k8_mesfun7c \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k7_numbers)))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers))))))\Rightarrow \\ & ((v1_funct_1 (k7_mesfun7c X0 X1))\wedge(m1_subset_1 (k7_mesfun7c \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k7_numbers)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers))))))\Rightarrow \\ & ((v1_funct_1 (k6_mesfun7c X0 X1))\wedge(m1_subset_1 (k6_mesfun7c \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k7_numbers)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge \\ & m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers))))\Rightarrow \\ & ((v1_funct_1 (k1_mesfunc5 X0 X1))\wedge(m1_subset_1 (k1_mesfunc5 \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k7_numbers)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers))\wedge(m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers))))))\Rightarrow \\ & ((v1_funct_1 (k1_mesfun7c X0 X1))\wedge((v1_funct_2 (k1_mesfun7c \\ & X0 X1) k5_numbers (k4_partfun1 X0 k7_numbers))\wedge(m1_subset_1 (\\ & k1_mesfun7c X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\ & X0 k7_numbers)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((v1_funct_1 \\
& X1) \wedge ((v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 \\
& X0 k1_numbers)))))) \wedge (m1_subset_1 X2 X0))) \Rightarrow ((v1_funct_1 (k10_seqfunc \\
& X0 X1 X2)) \wedge ((v1_funct_2 (k10_seqfunc X0 X1 X2) k5_numbers k1_numbers) \wedge \\
& (m1_subset_1 (k10_seqfunc X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\
& k5_numbers k1_numbers))))))
\end{aligned} \tag{16}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\
& (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k7_numbers)) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k7_numbers)))))) \Rightarrow \\
& (\forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k7_numbers)))) \Rightarrow ((X2 = k7_mesfunc8 X0 X1) \Leftrightarrow ((k1_relset_1 X0 X2 = \\
& k1_relset_1 X0 (k4_mesfunc5 X0 k7_numbers X1 k6_numbers)) \wedge (\forall X3. \\
& (m1_subset_1 X3 X0) \Rightarrow ((X3 \in k1_relset_1 X0 X2) \Rightarrow (k12_supinf_2 X2 \\
& X3 = k2_mesfunc5 (k3_mesfunc5 X0 X1 X3))))))
\end{aligned} \tag{17}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\
& (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k7_numbers)) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k7_numbers)))))) \Rightarrow \\
& (\forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k7_numbers)))) \Rightarrow ((X2 = k6_mesfunc8 X0 X1) \Leftrightarrow ((k1_relset_1 X0 X2 = \\
& k1_relset_1 X0 (k4_mesfunc5 X0 k7_numbers X1 k6_numbers)) \wedge (\forall X3. \\
& (m1_subset_1 X3 X0) \Rightarrow ((X3 \in k1_relset_1 X0 X2) \Rightarrow (k12_supinf_2 X2 \\
& X3 = k5_rinfsup2 (k3_mesfunc5 X0 X1 X3))))))
\end{aligned} \tag{18}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\
& (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\
& (k8_mesfun7c X0 X1 = k7_mesfunc8 X0 (k1_mesfun7c X0 X1))
\end{aligned} \tag{19}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k7_numbers)) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k7_numbers)))))) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k7_numbers)))) \Rightarrow ((X2 = k5_mesfunc8 X0 X1) \Leftrightarrow ((k1_relset_1 X0 X2 = \\
& k1_relset_1 X0 (k4_mesfunc5 X0 k7_numbers X1 k6_numbers)) \wedge (\forall X3. \\
& (m1_subset_1 X3 X0) \Rightarrow ((X3 \in k1_relset_1 X0 X2) \Rightarrow (k12_supinf_2 X2 \\
& X3 = k6_rinfsup2 (k3_mesfunc5 X0 X1 X3))))))))) \Rightarrow
\end{aligned} \tag{20}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\
& m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\\
& k1_mesfunc5 X0 X1 = X1)) \Rightarrow
\end{aligned} \tag{21}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\
& (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\
& (k7_mesfun7c X0 X1 = k6_mesfunc8 X0 (k1_mesfun7c X0 X1))) \Rightarrow
\end{aligned} \tag{22}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\
& (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\
& (k6_mesfun7c X0 X1 = k5_mesfunc8 X0 (k1_mesfun7c X0 X1))) \Rightarrow
\end{aligned} \tag{23}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\
& (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\
& (k1_mesfun7c X0 X1 = X1)) \Rightarrow
\end{aligned} \tag{24}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_funct_2 X2 X0 X1) \Rightarrow (\\
& v1_partfun1 X2 X0))) \Rightarrow
\end{aligned} \tag{25}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_partfun1 X2 X0) \Rightarrow (v1_funct_2 X2 X0 X1)) \Rightarrow
\end{aligned} \tag{26}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (((X2 \in k1_relset_1 X0 (k8_mesfun7c \\ & X0 X1)) \wedge (v2_comseq_2 (k10_seqfunc X0 X1 X2))) \Rightarrow ((k12_supinf_2 \\ & (k8_mesfun7c X0 X1) X2 = k12_supinf_2 (k7_mesfun7c X0 X1) X2) \wedge (k12_supinf_2 \\ & (k8_mesfun7c X0 X1) X2 = k12_supinf_2 (k6_mesfun7c X0 X1) X2)))) \end{aligned}$$