

t35_mesfun7c (TMR-
cRqj2iSMamnDm8dcGkzSgDAwcp9xjoRQ)

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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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_numbers : \iota$ be given. Let $v10_valued_0 : \iota \Rightarrow o$ be given. Let $v6_supinf_2 : \iota \Rightarrow o$ be given. Let $v4_measure1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_numbers : \iota$ be given. Let $r2_mesfun6c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_mesfun6c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_mesfunc6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k55_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_comseq_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_comseq_3 : \iota \Rightarrow \iota$ be given. Let $k5_comseq_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_comseq_3 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_complex1 : \iota \Rightarrow \iota$ be given. Let $k3_complex1 : \iota \Rightarrow \iota$ be given. Let $r1_mesfunc6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_mesfunc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_supinf_1 : \iota$ be given. Let $k6_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_mesfunc2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_mesfunc2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k2_numbers)))) \Rightarrow ((\exists X4. (m2_subset_1 X4 (k1_zfmisc_1 \\
& X0) X1) \wedge ((X4 = k1_relset_1 X0 X3) \wedge (r1_mesfun6c X0 X1 X3 X4))) \Rightarrow ((\\
& r2_mesfun6c X0 X1 X2 X3) \Leftrightarrow (r3_mesfunc6 X0 X1 X2 (k55_valued_1 X0 k2_numbers \\
& X3))))))
\end{aligned}$$

(1)

Assume the following.

$$\forall X0.\forall X1.((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers))))\Rightarrow(k6_comseq_3 X0 X1 = k4_comseq_3 X1) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers))))\Rightarrow(k5_comseq_3 X0 X1 = k3_comseq_3 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (4)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\Rightarrow((v1_relat_1 (k4_comseq_3 X0))\wedge((v1_funct_1 (k4_comseq_3 X0))\wedge(v3_valued_0 (k4_comseq_3 X0)))) \quad (5)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\Rightarrow((v1_relat_1 (k3_comseq_3 X0))\wedge((v1_funct_1 (k3_comseq_3 X0))\wedge(v3_valued_0 (k3_comseq_3 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers))))\Rightarrow((v1_funct_1 (k6_comseq_3 X0 X1))\wedge(m1_subset_1 (k6_comseq_3 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers))))\Rightarrow((v1_funct_1 (k5_comseq_3 X0 X1))\wedge(m1_subset_1 (k5_comseq_3 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))))\Rightarrow((v1_funct_1 (k1_mesfunc5 X0 X1))\wedge(m1_subset_1 (k1_mesfunc5 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k7_numbers)))) \quad (9)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (k1_mesfunc5 X0 X1 = X1)) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\ & ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\ & X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\ & (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k1_numbers)))) \Rightarrow ((r3_mesfunc6 X0 X1 X2 X3) \Leftrightarrow (r1_mesfunc5 X0 X1 \\ & X2 (k1_mesfunc5 X0 X3)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k4_comseq_3 \\ & X0) \Leftrightarrow ((k9_xtuple_0 X1 = k9_xtuple_0 X0) \wedge (\forall X2.(X2 \in k9_xtuple_0 \\ & X1) \Rightarrow (k1_funct_1 X1 X2 = k4_complex1 (k1_funct_1 X0 X2)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k3_comseq_3 \\ & X0) \Leftrightarrow ((k9_xtuple_0 X1 = k9_xtuple_0 X0) \wedge (\forall X2.(X2 \in k9_xtuple_0 \\ & X1) \Rightarrow (k1_funct_1 X1 X2 = k3_complex1 (k1_funct_1 X0 X2)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\ & ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\ & X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\ & (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k2_numbers)))) \Rightarrow ((r2_mesfunc6 X0 X1 X2 X3) \Leftrightarrow ((r3_mesfunc6 X0 \\ & X1 X2 (k5_comseq_3 X0 X3)) \wedge (r3_mesfunc6 X0 X1 X2 (k6_comseq_3 X0 \\ & X3)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\forall X3.(\\
& m2_subset_1 X3 (k1_zfmisc_1 X0) X1) \Rightarrow ((r1_mesfunc6 X0 X1 X2 X3) \Leftrightarrow \\
& (r1_mesfunc1 X0 X1 (k1_mesfunc5 X0 X2) X3))))))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow (\forall X3.(\\
& m2_subset_1 X3 (k1_zfmisc_1 X0) X1) \Rightarrow ((r1_mesfunc6c X0 X1 X2 X3) \Leftrightarrow \\
& ((r1_mesfunc6 X0 X1 (k5_comseq_3 X0 X2) X3) \wedge (r1_mesfunc6 X0 X1 (\\
& k6_comseq_3 X0 X2) X3))))))
\end{aligned} \tag{16}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge (v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k7_numbers)))) \Rightarrow ((r1_mesfunc5 X0 X1 X2 X3) \Leftrightarrow ((\exists X4.(m2_subset_1 \\
& X4 (k1_zfmisc_1 X0) X1) \wedge (X4 = k1_relset_1 X0 X3) \wedge (r1_mesfunc1 \\
& X0 X1 X3 X4)) \wedge ((\neg r1_xxreal_0 k1_supinf_1 (k6_mesfunc5 X0 X1 X2 \\
& (k1_mesfunc2 X0 X3))) \wedge (\neg r1_xxreal_0 k1_supinf_1 (k6_mesfunc5 \\
& X0 X1 X2 (k2_mesfunc2 X0 X3)))))))))
\end{aligned} \tag{17}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \tag{18}$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v5_relat_1 X0 k2_numbers)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_valued_0 X0)) \tag{19}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \tag{20}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\ & ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\ & X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\ & (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k2_numbers)))) \Rightarrow ((r2_mesfun6c X0 X1 X2 X3) \Rightarrow ((\exists X4.(m2_subset_1 \\ & X4 (k1_zfmisc_1 X0) X1) \wedge ((X4 = k1_relset_1 X0 X3) \wedge (r1_mesfun6c \\ & X0 X1 X3 X4)) \wedge (r3_mesfunc6 X0 X1 X2 (k55_valued_1 X0 k2_numbers \\ & X3)))))) \end{aligned}$$