

t107_mesfunc5 (TMLfx-
eVWq4SJ47o28kpRWkWK9g3mAxriZb)

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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 $r1_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_mesfunc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_supinf_1 : \iota$ be given. Let $k2_supinf_1 : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_mesfunc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12_supinf_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge (v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k7_numbers)))) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 k7_numbers)))) \Rightarrow (((k8_relset_1 \\
& X0 k7_numbers X3 (k1_tarski k1_supinf_1) \in X1) \wedge ((k8_relset_1 X0 \\
& k7_numbers X3 (k1_tarski k2_supinf_1) \in X1) \wedge ((k8_relset_1 X0 k7_numbers \\
& X4 (k1_tarski k1_supinf_1) \in X1) \wedge (k8_relset_1 X0 k7_numbers X4 \\
& (k1_tarski k2_supinf_1) \in X1)))) \Rightarrow ((\forall X5. (m2_subset_1 X5 \\
& (k1_zfmisc_1 X0) X1) \Rightarrow (\neg (X5 = k1_relset_1 X0 X3) \wedge (r1_mesfunc1 X0 \\
& X1 X3 X5))) \vee ((\forall X5. (m2_subset_1 X5 (k1_zfmisc_1 X0) X1) \Rightarrow \\
& (\neg (X5 = k1_relset_1 X0 X4) \wedge (r1_mesfunc1 X0 X1 X4 X5))) \vee (k1_relset_1 \\
& X0 (k3_mesfunc1 X0 X3 X4) \in X1))))))
\end{aligned}$$

(1)

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k7_numbers)))) \Rightarrow ((r1_mesfunc5 X0 X1 X2 X3) \Rightarrow ((k8_relset_1 X0 \\
& k7_numbers X3 (k1_tarski k1_supinf_1) \in X1) \wedge ((k8_relset_1 X0 k7_numbers \\
& X3 (k1_tarski k2_supinf_1) \in X1) \wedge ((k12_supinf_2 X2 (k8_relset_1 \\
& X0 k7_numbers X3 (k1_tarski k1_supinf_1)) = k6_numbers) \wedge ((k12_supinf_2 \\
& X2 (k8_relset_1 X0 k7_numbers X3 (k1_tarski k2_supinf_1)) = k6_numbers) \wedge \\
& ((k4_subset_1 X0 (k8_relset_1 X0 k7_numbers X3 (k1_tarski k1_supinf_1)) \\
& (k8_relset_1 X0 k7_numbers X3 (k1_tarski k2_supinf_1)) \in X1) \wedge (\\
& k12_supinf_2 X2 (k4_subset_1 X0 (k8_relset_1 X0 k7_numbers X3 (\\
& k1_tarski k1_supinf_1)) (k8_relset_1 X0 k7_numbers X3 (k1_tarski \\
& k2_supinf_1))) = k6_numbers))))))))) \Rightarrow \\
& \hspace{15em} (2)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k7_numbers)))) \Rightarrow ((r1_mesfunc5 X0 X1 X2 X3) \Leftrightarrow ((\exists X4.(m2_subset_1 \\
& X4 (k1_zfmisc_1 X0) X1) \wedge ((X4 = k1_relset_1 X0 X3) \wedge (r1_mesfunc1 \\
& X0 X1 X3 X4))) \wedge ((\neg r1_xxreal_0 k1_supinf_1 (k6_mesfunc5 X0 X1 X2 \\
& (k1_mesfunc2 X0 X3))) \wedge (\neg r1_xxreal_0 k1_supinf_1 (k6_mesfunc5 \\
& X0 X1 X2 (k2_mesfunc2 X0 X3))))))))) \Rightarrow \\
& \hspace{15em} (3)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k7_numbers)))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 k7_numbers)))) \Rightarrow (((r1_mesfunc5 \\
& X0 X1 X2 X3) \wedge (r1_mesfunc5 X0 X1 X2 X4)) \Rightarrow (k1_relset_1 X0 (k3_mesfunc1 \\
& X0 X3 X4) \in X1)))))) \Rightarrow \\
& \hspace{15em} (4)
\end{aligned}$$