

t2_lfuzzy_1 (TMVHSVeTpiUJcRPZgKnQhswnRP2DDk8oo2)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k8_lfuzzy_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_lfuzzy_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_fuzzy_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\
 & ((\neg v1_xboole_0 X1) \wedge ((v5_relat_1 X2 (k1_rcomp_1 k6_numbers np_1)) \wedge \\
 & ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 X1) k1_numbers) \wedge \\
 & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) \\
 & k1_numbers)))))) \wedge ((v5_relat_1 X3 (k1_rcomp_1 k6_numbers np_1)) \wedge \\
 & ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (k2_zfmisc_1 X0 X1) k1_numbers) \wedge \\
 & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) \\
 & k1_numbers)))))))))) \Rightarrow (r1_lfuzzy_1 X0 X1 X2 X2)
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\
 & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\
 & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\
 & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\
 & X3) \Leftrightarrow (X2 = X3))
 \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\
& ((\neg v1_xboole_0 X1)\wedge(((v5_relat_1 X2 (k1_rcomp_1 k6_numbers np_1))\wedge \\
& ((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 X0 X1) k1_numbers)\wedge \\
& (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) \\
& k1_numbers))))))\wedge((v5_relat_1 X3 (k1_rcomp_1 k6_numbers np_1))\wedge \\
& ((v1_funct_1 X3)\wedge((v1_funct_2 X3 (k2_zfmisc_1 X0 X1) k1_numbers)\wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) \\
& k1_numbers))))))))))\Rightarrow((r1_lfuzzy_1 X0 X1 X2 X3)\Leftrightarrow(r1_fuzzy_1 X2 \\
& X3))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v5_relat_1 X1 (k1_rcomp_1 \\
& k6_numbers np_1))\wedge((v1_funct_1 X1)\wedge((v1_funct_2 X1 X0 k1_numbers)\wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers))))))\Rightarrow \\
& (\forall X2.((v5_relat_1 X2 (k1_rcomp_1 k6_numbers np_1))\wedge(\\
& (v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 k1_numbers)\wedge(m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers))))))\Rightarrow(((r1_fuzzy_1 \\
& X1 X2)\wedge(r1_fuzzy_1 X2 X1))\Rightarrow(r2_funct_2 X0 k1_numbers X1 X2)))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(\neg v1_xboole_0 X1))\Rightarrow \\
& (\neg v1_xboole_0 (k2_zfmisc_1 X0 X1))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(\neg v1_xboole_0 X1)\Rightarrow \\
& (\forall X2.((v5_relat_1 X2 (k1_rcomp_1 k6_numbers np_1))\wedge(\\
& (v1_funct_1 X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 X0 X1) k1_numbers)\wedge \\
& (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) \\
& k1_numbers))))))\Rightarrow(\forall X3.((v5_relat_1 X3 (k1_rcomp_1 k6_numbers \\
& np_1))\wedge((v1_funct_1 X3)\wedge((v1_funct_2 X3 (k2_zfmisc_1 X0 X1) \\
& k1_numbers)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& X0 X1) k1_numbers))))))\Rightarrow((r1_lfuzzy_1 X0 X1 X2 X3)\Leftrightarrow(\forall X4. \\
& (m1_subset_1 X4 X0)\Rightarrow(\forall X5.(m1_subset_1 X5 X1)\Rightarrow(r1_xxreal_0 \\
& (k8_lfuzzy_0 X0 X1 X2 X4 X5) (k8_lfuzzy_0 X0 X1 X3 X4 X5))))))
\end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2.((v5_relat_1 X2 (k1_rcomp_1 k6_numbers np_1)) \wedge \\ & (v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 X1) k1_numbers) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) \\ & k1_numbers)))))) \Rightarrow (\forall X3.((v5_relat_1 X3 (k1_rcomp_1 k6_numbers \\ & np_1)) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (k2_zfmisc_1 X0 X1) \\ & k1_numbers) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1) k1_numbers)))))) \Rightarrow ((\forall X4.(m1_subset_1 X4 X0) \Rightarrow (\forall X5. \\ & (m1_subset_1 X5 X1) \Rightarrow (k8_lfuzzy_0 X0 X1 X2 X4 X5 = k8_lfuzzy_0 X0 X1 \\ & X3 X4 X5))) \Rightarrow (r2_relset_1 (k2_zfmisc_1 X0 X1) k1_numbers X2 X3)))))) \end{aligned}$$