

t17_lfuzzy_0
(TMY8qJUYN8VTMtrx3eyF6nq7m8ZBm6qyb3f)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_lfuzzy_0 : \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_lfuzzy_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_lfuzzy_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_numbers : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_lfuzzy_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v5_relat_1 X1 (k1_rcomp_1 \\
& k6_numbers np_1)) \wedge ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 X0 k1_numbers) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))))) \Rightarrow \\
& (\forall X2. ((v5_relat_1 X2 (k1_rcomp_1 k6_numbers np_1)) \wedge \\
& (v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 k1_numbers) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))))) \Rightarrow ((\forall X3. \\
& (m1_subset_1 X3 X0) \Rightarrow (r1_xxreal_0 (k7_lfuzzy_0 X0 X1 X3) (k7_lfuzzy_0 \\
& X0 X2 X3))) \Leftrightarrow (r1_orders_2 (k4_lfuzzy_0 X0) (k6_lfuzzy_0 X0 X1) (\\
& k6_lfuzzy_0 X0 X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 (u1_struct_0 \\
& (k4_lfuzzy_0 X0)))) \Rightarrow ((v5_relat_1 (k5_lfuzzy_0 X0 X1) (k1_rcomp_1 \\
& k6_numbers np_1)) \wedge ((v1_funct_1 (k5_lfuzzy_0 X0 X1)) \wedge ((v1_funct_2 \\
& (k5_lfuzzy_0 X0 X1) X0 k1_numbers) \wedge (m1_subset_1 (k5_lfuzzy_0 \\
& X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v5_relat_1 X1 (k1_rcomp_1 \\
& k6_numbers np_1)) \wedge ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 X0 k1_numbers) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))))) \Rightarrow \\
& (k6_lfuzzy_0 X0 X1 = X1))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k4_lfuzzy_0 X0))) \Rightarrow (k5_lfuzzy_0 X0 X1 = X1)) \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & \quad (k4_lfuzzy_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & (k4_lfuzzy_0 X0))) \Rightarrow ((r1_orders_2 (k4_lfuzzy_0 X0) X1 X2) \Leftrightarrow (\forall X3. \\ & (m1_subset_1 X3 X0) \Rightarrow (r1_xreal_0 (k7_lfuzzy_0 X0 (k5_lfuzzy_0 \\ & \quad X0 X1) X3) (k7_lfuzzy_0 X0 (k5_lfuzzy_0 X0 X2) X3)))))) \end{aligned}$$