

t11_msualg_6
(TMQ8FQCtsJUZxg1xbHY8o5kZt8cjbv51nQVs)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_msualg_6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $r1_msualg_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_card_3 : \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_msualg_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\ X0))) \Rightarrow (\forall X1. (l3_msualg_1 X1 X0) \Rightarrow (\forall X2. (m1_subset_1 \\ X2 (u4_struct_0 X0)) \Rightarrow ((k3_msualg_1 X0 X2 X1 = k4_card_3 (k3_relat_1 \\ (k1_msualg_1 X0 X2) (u3_msualg_1 X0 X1))) \wedge ((k9_xtuple_0 (k3_relat_1 \\ (k1_msualg_1 X0 X2) (u3_msualg_1 X0 X1)) = k9_xtuple_0 (k1_msualg_1 \\ X0 X2)) \wedge (k4_msualg_1 X0 X2 X1 = k1_funct_1 (u3_msualg_1 X0 X1) (k2_msualg_1 \\ X0 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u4_struct_0 X0)) \Rightarrow (\forall X2. \\
& (l3_msualg_1 X2 X0) \Rightarrow ((k3_msualg_1 X0 X1 X2 \neq k1_xboole_0) \Leftrightarrow (\forall X3. \\
& (m1_subset_1 X3 k5_numbers) \Rightarrow (\neg(X3 \in k4_finseq_1 (k1_msualg_1 \\
& X0 X1)) \wedge (k1_funct_1 (u3_msualg_1 X0 X2) (k7_partfun1 (u1_struct_0 \\
& \quad X0) (k1_msualg_1 X0 X1) X3) = k1_xboole_0))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u4_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3.((v1_msualg_6 X3 X0) \wedge \\
& (l3_msualg_1 X3 X0)) \Rightarrow (\forall X4.((v1_relat_1 X4) \wedge (v1_funct_1 \\
& X4) \Rightarrow ((X4 \in k3_msualg_1 X0 X1 X3) \Rightarrow ((v1_funct_1 (k4_msualg_6 X0 \\
& X1 X2 X3 X4)) \wedge ((v1_funct_2 (k4_msualg_6 X0 X1 X2 X3 X4) (k1_funct_1 \\
& (u3_msualg_1 X0 X3) (k7_partfun1 (u1_struct_0 X0) (k1_msualg_1 \\
& X0 X1) X2)) (k1_funct_1 (u3_msualg_1 X0 X3) (k2_msualg_1 X0 X1))) \wedge \\
& (m1_subset_1 (k4_msualg_6 X0 X1 X2 X3 X4) (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k1_funct_1 (u3_msualg_1 X0 X3) (k7_partfun1 (u1_struct_0 X0) \\
& (k1_msualg_1 X0 X1) X2)) (k1_funct_1 (u3_msualg_1 X0 X3) (k2_msualg_1 \\
& \quad X0 X1))))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$v1_xboole_0 \quad k1_xboole_0 \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(l3_msualg_1 X3 \\
& X0) \Rightarrow (\forall X4.((v1_relat_1 X4) \wedge (v1_funct_1 X4)) \Rightarrow ((r1_msualg_6 \\
& X0 X1 X2 X3 X4) \Leftrightarrow (\exists X5.(m1_subset_1 X5 (u4_struct_0 X0)) \wedge \\
& (k2_msualg_1 X0 X5 = X2) \wedge (\exists X6.(m1_subset_1 X6 k5_numbers) \wedge \\
& ((X6 \in k4_finseq_1 (k1_msualg_1 X0 X5)) \wedge ((k7_partfun1 (u1_struct_0 \\
& X0) (k1_msualg_1 X0 X5) X6 = X1) \wedge (\exists X7.((v1_relat_1 X7) \wedge \\
& v1_funct_1 X7) \wedge ((X7 \in k3_msualg_1 X0 X5 X3) \wedge (X4 = k4_msualg_6 X0 \\
& \quad X5 X6 X3 X7))))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\
& \quad X0))) \Rightarrow (\forall X1.(l3_msualg_1 X1 X0) \Rightarrow ((v1_msualg_6 X1 X0) \Leftrightarrow (\\
& \quad \forall X2.(m1_subset_1 X2 (u4_struct_0 X0)) \Rightarrow (\neg(k3_msualg_1 \\
& X0 X2 X1 \neq k1_xboole_0) \wedge (k4_msualg_1 X0 X2 X1 = k1_xboole_0))))))
\end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\ & \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.((v1_msualg_6 \\ & \quad X3 X0) \wedge (l3_msualg_1 X3 X0)) \Rightarrow (\forall X4.((v1_relat_1 X4) \wedge (v1_funct_1 \\ X4)) \Rightarrow ((r1_msualg_6 X0 X1 X2 X3 X4) \Rightarrow (((v1_funct_1 X4) \wedge ((v1_funct_2 \\ & \quad X4 (k1_funct_1 (u3_msualg_1 X0 X3) X1) (k1_funct_1 (u3_msualg_1 \\ & \quad X0 X3) X2)) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k1_funct_1 \\ & \quad (u3_msualg_1 X0 X3) X1) (k1_funct_1 (u3_msualg_1 X0 X3) X2)))))) \wedge \\ & \quad ((k1_funct_1 (u3_msualg_1 X0 X3) X1 \neq k1_xboole_0) \wedge (k1_funct_1 \\ & \quad (u3_msualg_1 X0 X3) X2 \neq k1_xboole_0))))))))) \end{aligned}$$