

t1_msualg_5 (TMTqERMHKW- BUharfk6b4U7BdvqYvcE1Syh8)

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Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_msualg_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v3_relat_2 X1) \wedge ((v8_relat_2 X1) \wedge ((v1_partfun1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \wedge ((v3_relat_2 X2) \wedge ((v8_relat_2 X2) \wedge ((v1_partfun1 X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \Rightarrow ((v3_relat_2 (k5_eqrel_1 X0 X1 X2)) \wedge ((v8_relat_2 (k5_eqrel_1 X0 X1 X2)) \wedge ((v1_partfun1 (k5_eqrel_1 X0 X1 X2) X0) \wedge (m1_subset_1 (k5_eqrel_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \Rightarrow (m1_subset_1 (k3_eqrel_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \Rightarrow ((v1_partfun1 (k1_msualg_5 X0 X1) X0) \wedge ((v3_relat_2 (k1_msualg_5 X0 X1)) \wedge ((v8_relat_2 (k1_msualg_5 X0 X1)) \wedge (m1_subset_1 (k1_msualg_5 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v3_relat_2 X1)\wedge((v8_relat_2 X1)\wedge((v1_partfun1 \\
& X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow \\
& (\forall X2.((v3_relat_2 X2)\wedge((v8_relat_2 X2)\wedge((v1_partfun1 \\
& X2 X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow \\
& (\forall X3.((v3_relat_2 X3)\wedge((v8_relat_2 X3)\wedge((v1_partfun1 \\
& X3 X0)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow \\
& ((X3 = k5_eqrel_1 X0 X1 X2)\Leftrightarrow((r1_relset_1 X0 X0 (k3_eqrel_1 X0 X1 \\
& X2) X3)\wedge(\forall X4.((v3_relat_2 X4)\wedge((v8_relat_2 X4)\wedge((v1_partfun1 \\
& X4 X0)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow \\
& ((r1_relset_1 X0 X0 (k3_eqrel_1 X0 X1 X2) X4)\Rightarrow(r1_relset_1 X0 X0 \\
& X3 X4))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0)))\Rightarrow(\forall X2.((v1_partfun1 X2 X0)\wedge((v3_relat_2 X2)\wedge(\\
& (v8_relat_2 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\
& X0))))))\Rightarrow((X2 = k1_msualg_5 X0 X1)\Leftrightarrow((r1_relset_1 X0 X0 X1 X2)\wedge(\\
& \forall X3.((v1_partfun1 X3 X0)\wedge((v3_relat_2 X3)\wedge((v8_relat_2 \\
& X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow((\\
& r1_relset_1 X0 X0 X1 X3)\Rightarrow(r1_relset_1 X0 X0 X2 X3))))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0.\forall X1.((v1_partfun1 X1 X0)\wedge((v3_relat_2 X1)\wedge \\
& ((v8_relat_2 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\
& X0))))))\Rightarrow(\forall X2.((v1_partfun1 X2 X0)\wedge((v3_relat_2 X2)\wedge \\
& ((v8_relat_2 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\
& X0))))))\Rightarrow(r2_relset_1 X0 X0 (k5_eqrel_1 X0 X1 X2) (k1_msualg_5 \\
& X0 (k3_eqrel_1 X0 X1 X2))))
\end{aligned}$$