

t39_msualg_6 (TMUhwEYWL-
PakKS3HvCAtDFcH6Em9dUZgmUt)

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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 $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. 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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r1_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relat_1 : \iota \Rightarrow \iota$ be given. Let $r8_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.(r2_rewrite1 X0 X1 X2) \Rightarrow (r2_rewrite1 X0 X2 X1)) \quad (1)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.\forall X3. ((r2_rewrite1 X0 X1 X2) \wedge (r2_rewrite1 X0 X2 X3)) \Rightarrow (r2_rewrite1 X0 X1 X3)) \quad (2)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.r2_rewrite1 X0 X1 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \Rightarrow ((r1_relat_2 X1 X0) \Rightarrow ((k1_relset_1 X0 X1 = X0) \wedge (k1_relat_1 X1 = X0))) \quad (4)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r8_relat_2 X0 X1) \Leftrightarrow (\forall X2.\forall X3.\forall X4. ((X2 \in X1) \wedge ((X3 \in X1) \wedge ((X4 \in X1) \wedge ((k4_tarski X2 X3 \in X0) \wedge (k4_tarski X3 X4 \in X0)))))) \Rightarrow (k4_tarski X2 X4 \in X0))) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r3_relat_2 X0 X1) \Leftrightarrow (\forall X2. \\ \forall X3.((X2 \in X1) \wedge ((X3 \in X1) \wedge (k4_tarski X2 X3 \in X0))) \Rightarrow (k4_tarski \\ X3 X2 \in X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\ (v1_partfun1 X1 X0) \Leftrightarrow (k1_relset_1 X0 X1 = X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r1_relat_2 X0 X1) \Leftrightarrow (\forall X2. \\ (X2 \in X1) \Rightarrow (k4_tarski X2 X2 \in X0))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_relat_1 X0) \Rightarrow ((v8_relat_2 X0) \Leftrightarrow (r8_relat_2 X0 (\\ k1_relat_1 X0))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_relat_1 X0) \Rightarrow ((v3_relat_2 X0) \Leftrightarrow (r3_relat_2 X0 (\\ k1_relat_1 X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 X0))) \Rightarrow ((\forall X3.\forall X4.((X3 \in X0) \wedge (X4 \in X0)) \Rightarrow ((k4_tarski \\ X3 X4 \in X2) \Leftrightarrow (r2_rewrite1 X1 X3 X4))) \Rightarrow ((v1_partfun1 X2 X0) \wedge ((v3_relat_2 \\ X2) \wedge (v8_relat_2 X2)))))) \end{aligned}$$