

t47_eqrel_1
(TMV4u8bZ4HrngfK1Czw8Q5a3uaKs6mePBa2)

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Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_3 : \iota \Rightarrow \iota$ be given. Let $k9_funct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_funct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k7_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. k9_funct_3 X0 X1 = k7_funct_3 X0 X1 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (k7_relset_1 X0 X1 X2 X3 = k7_relat_1 X2 X3) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (v1_funct_1 (k9_funct_3 X0 X1)) \wedge ((v1_funct_2 (k9_funct_3 X0 X1) (k2_zfmisc_1 X0 X1) X0) \wedge (m1_subset_1 (k9_funct_3 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) X0)))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 (k7_funct_3 X0 X1)) \wedge (v1_funct_1 (k7_funct_3 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k1_funct_3 X0)) \wedge (v1_funct_1 (k1_funct_3 X0))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_relat_1 X2)\wedge(v1_funct_1 \\ & X2))\Rightarrow((X2 = k7_funct_3 X0 X1)\Leftrightarrow((k9_xtuple_0 X2 = k2_zfmisc_1 X0 \\ & X1)\wedge(\forall X3.\forall X4.((X3 \in X0)\wedge(X4 \in X1))\Rightarrow(k1_binop_1 X2 \\ & X3 X4 = X3)))) \end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow(\forall X1.((\\ & v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow((X1 = k1_funct_3 X0)\Leftrightarrow((k9_xtuple_0 \\ & X1 = k1_zfmisc_1 (k9_xtuple_0 X0))\wedge(\forall X2.(r1_tarski X2 (\\ & k9_xtuple_0 X0))\Rightarrow(k1_funct_1 X1 X2 = k7_relat_1 X0 X2)))))) \end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(r1_tarski X0 (k2_zfmisc_1 X1 \\ & X2))\Rightarrow(k1_funct_1 (k1_funct_3 (k9_funct_3 X1 X2)) X0 = k7_relset_1 \\ & (k2_zfmisc_1 X1 X2) X1 (k9_funct_3 X1 X2) X0) \end{aligned}$$