

t53_eqrel_1

(TMWhZac78LBXXnubrShg8r9G8JcKNZi3YLS)

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Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funct_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $k1_funct_3 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. \\ & ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2)))))) \Rightarrow ((r1_tarski X1 (k1_zfmisc_1 X0)) \Rightarrow (k7_relat_1 \\ & X3 (k3_tarski X1) = k3_tarski (k7_relat_1 (k1_funct_3 X3) X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (m1_subset_1 X2 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (k7_relset_1 X0 X1 X2 X3 = k7_relat_1 \\ & X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow (k5_setfam_1 X0 X1 = k3_tarski X1) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X1) \wedge ((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \Rightarrow (k2_funct_3 X0 X1 X2 = k1_funct_3 X2) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(m1_subset_1 (k7_relset_1 X0 X1 X2 X3) (k1_zfmisc_1 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X1)\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow((v1_funct_1 (k2_funct_3 X0 X1 X2))\wedge((v1_funct_2 (k2_funct_3 X0 X1 X2) (k1_zfmisc_1 X0) (k1_zfmisc_1 X1))\wedge(m1_subset_1 (k2_funct_3 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (k1_zfmisc_1 X0) (k1_zfmisc_1 X1)))))) \quad (7)$$

Theorem 1

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow(k5_setfam_1 X1 (k7_relset_1 (k1_zfmisc_1 X0) (k1_zfmisc_1 X1) (k2_funct_3 X0 X1 X2) X3) = k7_relset_1 X0 X1 X2 (k5_setfam_1 X0 X3))))$$