

t29_relset_2 (TMcp-
wXjWKK3Uy4phtYmav4nCe6M6c588b3q)

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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 $k1_xboole_0 : \iota$ be given. Let $k6_relset_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k4_relset_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_eqrel_1 : \iota \Rightarrow \iota$ be given. Let $k5_relset_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_relset_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\ & X1))) \Rightarrow ((k7_relset_1 (k9_setfam_1 X0) (k9_setfam_1 X1) (k4_relset_2 \\ & X1 X0 X3) (k10_eqrel_1 X2) = k1_xboole_0) \Leftrightarrow (X2 = k1_xboole_0))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. k9_setfam_1 X0 = k1_zfmisc_1 X0 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\ & (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))) \Rightarrow (k6_relset_2 X0 X1 X2 X3 = k5_relset_2 X0 X1 X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X1 X0))) \Rightarrow (k4_relset_2 X0 X1 X2 = k3_relset_2 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \exists X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge (\\ & (v5_relat_1 X2 X1) \wedge (v1_funct_1 X2)))) \end{aligned} \quad (5)$$

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.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))\Rightarrow((v1_funct_1 (k4_relset_2 X0 X1 X2))\wedge((v1_funct_2 (k4_relset_2 X0 X1 X2) (k9_setfam_1 X1) (k9_setfam_1 X0))\wedge(m1_subset_1 (k4_relset_2 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (k9_setfam_1 X1) (k9_setfam_1 X0)))))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow(((X1\neq k1_xboole_0)\Rightarrow(k8_setfam_1 X0 X1 = k6_setfam_1 X0 X1))\wedge((X1 = k1_xboole_0)\Rightarrow(k8_setfam_1 X0 X1 = X0))) \quad (8)$$

Assume the following.

$$k1_xboole_0 = the (\lambda X0 : \iota.v1_xboole_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(k5_relset_2 X0 X1 X2 X3 = k8_setfam_1 X1 (k7_relset_1 (k9_setfam_1 X0) (k9_setfam_1 X1) (k4_relset_2 X1 X0 X3) (k10_eqrel_1 X2)))) \quad (10)$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((X2 = k1_xboole_0)\Rightarrow(k6_relset_2 X0 X1 X2 X3 = X1)))$$