

t68_eqrel_1
(TMSeteZCuktXJh8HQpLgyJzbwLEDJCZz3HC)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_eqrel_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\ & (m1_eqrel_1 X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (\forall X3. \\ & (m2_subset_1 X3 (k1_zfmisc_1 X0) X1) \Rightarrow ((X2 \in X3) \Rightarrow (X3 = k3_funct_2 \\ & X0 X1 (k13_eqrel_1 X0 X1) X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k1_zfmisc_1 X0) \quad (5)$$

Assume the following.

$$\forall X0.\exists X1.m1_subset_1 X1 X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_eqrel_1 X1 X0)\Rightarrow(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow((m1_eqrel_1 X1 X0)\Leftrightarrow((k5_setfam_1 X0 X1 = X0)\wedge(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow((X2 \in X1)\Rightarrow((X2 \neq k1_xboole_0)\wedge(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 X0))\Rightarrow(\neg(X3 \in X1)\wedge((X2 \neq X3)\wedge(\neg r1_xboole_0 X2 X3)))))))))) \quad (9)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((\neg v1_xboole_0 X1)\wedge(m1_eqrel_1 X1 X0))\Rightarrow(\forall X2.(m2_subset_1 X2 (k1_zfmisc_1 X0) X1)\Rightarrow(\exists X3.(m1_subset_1 X3 X0)\wedge(k3_funct_2 X0 X1 (k13_eqrel_1 X0 X1) X3 = X2))))$$