

t65_eqrel_1 (TMNEVqvTtd-
Fozm9su6NURrLDSmiEipBVD29)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (\neg(\neg r1_xboole_0 X0 X1) \wedge (\forall X2. \neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1_xboole_0 X0 X1)) \quad (2)$$

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.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (4)$$

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. (m1_eqrel_1 X1 X0) \Rightarrow (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & (((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))))\wedge(m1_subset_1 X3 X0))\Rightarrow(m1_subset_1 (\\ & k3_funct_2 X0 X1 X2 X3) X1) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ & (m1_eqrel_1 X1 X0)))\Rightarrow((v1_funct_1 (k13_eqrel_1 X0 X1))\wedge((v1_funct_2 \\ & (k13_eqrel_1 X0 X1) X0 X1)\wedge(m1_subset_1 (k13_eqrel_1 X0 X1) (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((\neg v1_xboole_0 X1)\wedge \\ & (m1_eqrel_1 X1 X0))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 \\ & X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow \\ & ((X2 = k13_eqrel_1 X0 X1)\Leftrightarrow(\forall X3.(m1_subset_1 X3 X0)\Rightarrow(X3 \in \\ & k3_funct_2 X0 X1 X2 X3)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\ & X0)))\Rightarrow((m1_eqrel_1 X1 X0)\Leftrightarrow((k5_setfam_1 X0 X1 = X0)\wedge(\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow((X2 \in X1)\Rightarrow((X2 \neq k1_xboole_0)\wedge \\ & (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 X0))\Rightarrow(\neg(X3 \in X1)\wedge((X2 \neq \\ & X3)\wedge(\neg r1_xboole_0 X2 X3)))))))))) \end{aligned} \quad (10)$$

Theorem 1

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