

t1_relset_2 (TM- SkbLniC5TX3WpTSao61A7G5zDTHqrGUyR)

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Let $k10_eqrel_1 : \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_2 : \iota \Rightarrow o$ be given. Let $k6_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow (k10_eqrel_1 X0 = ReplSep (toset (\lambda X1 : \iota. m1_subset_1 X1 X0)) (\lambda X1 : \iota. True) (\lambda X1 : \iota. k6_domain_1 X0 X1))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski (k1_tarski X0) X1) \Leftrightarrow (X0 \in X1) \quad (2)$$

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.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v3_relat_2 X1) \wedge ((v8_relat_2 X1) \wedge ((v1_partfun1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \Rightarrow (k8_eqrel_1 X0 X1 = k7_eqrel_1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0. k6_partfun1 X0 = k4_relat_1 X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow (k6_domain_1 X0 X1 = k1_tarski X1) \quad (7)$$

Assume the following.

$$\forall X0.\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(v1_xboole_0 X1) \quad (8)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_relat_1 X0))\wedge((v3_relat_2 (k4_relat_1 X0))\wedge((v4_relat_2 (k4_relat_1 X0))\wedge(v8_relat_2 (k4_relat_1 X0)))) \quad (9)$$

Assume the following.

$$\forall X0.(v1_partfun1 (k6_partfun1 X0) X0)\wedge(m1_subset_1 (k6_partfun1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (10)$$

Assume the following.

$$\forall X0.k10_eqrel_1 X0 = k8_eqrel_1 X0 (k6_partfun1 X0) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v3_relat_2 X1)\wedge((v8_relat_2 X1)\wedge((v1_partfun1 \\ & X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow \\ & ((X2 = k7_eqrel_1 X0 X1)\Leftrightarrow(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\ & X0))\Rightarrow((X3 \in X2)\Leftrightarrow(\exists X4.(X4 \in X0)\wedge(X3 = k6_eqrel_1 X0 X0 X1 X4)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Leftrightarrow(\forall X1.\neg X1 \in X0) \quad (13)$$

Theorem 1

$$\forall X0.\forall X1.(X0 \in k10_eqrel_1 X1)\Leftrightarrow(\exists X2.(X0 = k1_tarski X2)\wedge(X2 \in X1))$$