

t57_funcop_1

(TMR9f3dm1FsTd5wbULhko3R1TcGXGcLjDeh)

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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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funcop_1 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \neq k1_xboole_0) \wedge ((X1 \neq k1_xboole_0) \wedge (\neg \forall X2. (m1_subset_1 X2 (k2_zfmisc_1 X0 X1)) \Rightarrow (X2 = k4_tarski (k1_xtuple_0 X2) (k2_xtuple_0 X2)))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 X1 X2 X3 = k1_funct_1 X2 X3) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (4)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(\neg v1_xboole_0 X1))\Rightarrow (\neg v1_xboole_0 (k2_zfmisc_1 X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge (((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\wedge(m1_subset_1 X3 X0)))\Rightarrow(m1_subset_1 (k3_funct_2 X0 X1 X2 X3) X1) \quad (7)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow((v1_relat_1 (k1_funcop_1 X0))\wedge(v1_funct_1 (k1_funcop_1 X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(((X1\neq k1_xboole_0)\Rightarrow((v1_funct_2 X2 X0 X1)\Leftrightarrow(X0 = k1_relset_1 X0 X2)))\wedge((X1 = k1_xboole_0)\Rightarrow((v1_funct_2 X2 X0 X1)\Leftrightarrow(X2 = k1_xboole_0)))) \quad (9)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow(\forall X1.(((v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow((X1 = k1_funcop_1 X0)\Leftrightarrow((k9_xtuple_0 X1 = k9_xtuple_0 X0)\wedge(\forall X2.(X2 \in k9_xtuple_0 X0)\Rightarrow((\forall X3.\forall X4.(k1_funct_1 X0 X2 = k4_tarski X3 X4)\Rightarrow(k1_funct_1 X1 X2 = k4_tarski X4 X3))\wedge(\neg(k1_funct_1 X0 X2\neq k1_funct_1 X1 X2)\wedge(\forall X3.\forall X4.k1_funct_1 X0 X2\neq k4_tarski X3 X4)))))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (12)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(\forall X2.(\neg v1_xboole_0 X2)\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge(((v1_funct_2 X3 X0 (k2_zfmisc_1 X1 X2))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 (k2_zfmisc_1 X1 X2))))))\Rightarrow(\forall X4.(m1_subset_1 X4 X0)\Rightarrow(k1_funct_1 (k1_funcop_1 X3) X4 = k4_tarski (k2_xtuple_0 (k3_funct_2 X0 (k2_zfmisc_1 X1 X2) X3 X4)) (k1_xtuple_0 (k3_funct_2 X0 (k2_zfmisc_1 X1 X2) X3 X4))))))))))$$