

t75_funct_3

(TMSDuU2erDERryRsaKuzeJr26YehNPrxNhF)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_funct_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarSKI : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k15_funct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k2_tarSKI : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarSKI : \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (((v1_funct_1 X3) \wedge ((\\ & v1_funct_2 X3 (k2_zfmisc_1 X0 X1) X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) X2)))))) \wedge ((m1_subset_1 X4 X0) \wedge \\ & (m1_subset_1 X5 X1)))))) \Rightarrow (k2_binop_1 X0 X1 X2 X3 X4 X5 = k1_binop_1 \\ & X3 X4 X5) \end{aligned} \quad (3)$$

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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (((v1_funct_1 X4)\wedge((v1_funct_2 X4 X0 X2)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2))))))\wedge((v1_funct_1 X5)\wedge((v1_funct_2 X5 X1 X3)\wedge \\ & (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X1 X3))))))\Rightarrow(k16_funct_3 \\ & X0 X1 X2 X3 X4 X5 = k15_funct_3 X4 X5) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k2_zfmisc_1 X0 X1) \quad (6)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (((v1_funct_1 X4)\wedge((v1_funct_2 X4 X0 X2)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2))))))\wedge((v1_funct_1 X5)\wedge((v1_funct_2 X5 X1 X3)\wedge \\ & (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X1 X3))))))\Rightarrow((v1_funct_1 \\ & (k16_funct_3 X0 X1 X2 X3 X4 X5))\wedge((v1_funct_2 (k16_funct_3 X0 X1 \\ & X2 X3 X4 X5) (k2_zfmisc_1 X0 X1) (k2_zfmisc_1 X2 X3))\wedge(m1_subset_1 \\ & (k16_funct_3 X0 X1 X2 X3 X4 X5) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1) (k2_zfmisc_1 X2 X3)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1 X0)\wedge(v1_funct_1 X0))\wedge((\\ & v1_relat_1 X1)\wedge(v1_funct_1 X1)))\Rightarrow((v1_relat_1 (k15_funct_3 \\ & X0 X1))\wedge(v1_funct_1 (k15_funct_3 X0 X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow(\forall X1.((\\ & v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge \\ & (v1_funct_1 X2))\Rightarrow((X2 = k15_funct_3 X0 X1)\Leftrightarrow((k9_xtuple_0 X2 = k2_zfmisc_1 \\ & (k9_xtuple_0 X0) (k9_xtuple_0 X1))\wedge(\forall X3.\forall X4.((\\ & X3 \in k9_xtuple_0 X0)\wedge(X4 \in k9_xtuple_0 X1))\Rightarrow(k1_binop_1 X2 X3 X4 = \\ & k4_tarski (k1_funct_1 X0 X3) (k1_funct_1 X1 X4))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow(((X1\neq k1_xboole_0)\Rightarrow((v1_funct_2 X2 X0 \\ & X1)\Leftrightarrow(X0 = k1_relset_1 X0 X2)))\wedge((X1 = k1_xboole_0)\Rightarrow((v1_funct_2 \\ & X2 X0 X1)\Leftrightarrow(X2 = k1_xboole_0)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & X0))\Rightarrow(v1_relat_1 X1)) \end{aligned} \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(\neg v1_xboole_0 X1)\Rightarrow \\ & (\forall X2.(\neg v1_xboole_0 X2)\Rightarrow(\forall X3.(\neg v1_xboole_0 X3)\Rightarrow \\ & (\forall X4.((v1_funct_1 X4)\wedge((v1_funct_2 X4 X0 X1)\wedge(m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow(\forall X5.((v1_funct_1 \\ & X5)\wedge((v1_funct_2 X5 X2 X3)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X2 X3))))))\Rightarrow(\forall X6.(m1_subset_1 X6 X0)\Rightarrow(\forall X7.(m1_subset_1 \\ & X7 X2)\Rightarrow(k2_binop_1 X0 X2 (k2_zfmisc_1 X1 X3) (k16_funct_3 X0 X2 X1 \\ & X3 X4 X5) X6 X7 = k4_tarski (k3_funct_2 X0 X1 X4 X6) (k3_funct_2 X2 X3 \\ & X5 X7)))))))))) \end{aligned}$$