

t75_valued_2

(TMc2p4iW5jNXJjU7XLFFdsjqA4cE5AfW2a9)

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Let $v1_valued_2 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ 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 $k73_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_valued_2 : \iota \Rightarrow \iota$ be given. Let $k1_valued_2 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k72_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_valued_2 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & \quad (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & \quad X1))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_valued_0 \\ & \quad X2)))) \Rightarrow (k1_valued_1 (k1_valued_1 X0 X1) X2 = k1_valued_1 X0 (k1_valued_1 \\ & \quad X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k3_xboole_0 (k3_xboole_0 X0 X1) X2 = k3_xboole_0 X0 (k3_xboole_0 X1 X2) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((v1_valued_2 X2) \wedge ((v1_valued_2 X3) \wedge (((v1_funct_1 X4) \wedge (m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2)))) \wedge ((v1_funct_1 X5) \wedge (m1_subset_1 \\ & X5 (k1_zfmisc_1 (k2_zfmisc_1 X1 X3))))))) \Rightarrow (k73_valued_2 X0 X1 \\ & X2 X3 X4 X5 = k72_valued_2 X2 X3 X4 X5) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v7_valued_2 X0))) \Rightarrow (v1_valued_0 (k1_funct_1 X0 X1)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v7_valued_2 X0)))\Rightarrow((v1_relat_1 (k1_funct_1 X0 X1))\wedge(v1_funct_1 (k1_funct_1 X0 X1))) \quad (5)$$

Assume the following.

$$\forall X0.v1_valued_2 (k2_valued_2 X0) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & ((v1_valued_2 X2)\wedge((v1_valued_2 X3)\wedge(((v1_funct_1 X4)\wedge(m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2))))\wedge((v1_funct_1 X5)\wedge(m1_subset_1 \\ & X5 (k1_zfmisc_1 (k2_zfmisc_1 X1 X3)))))))\Rightarrow((v1_funct_1 (k73_valued_2 \\ & X0 X1 X2 X3 X4 X5))\wedge(m1_subset_1 (k73_valued_2 X0 X1 X2 X3 X4 X5) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k3_xboole_0 X0 X1) (k2_valued_2 (k3_xboole_0 (k1_valued_2 \\ & X2) (k1_valued_2 X3))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_valued_2 X0)\wedge \\ & ((v1_valued_2 X1)\wedge(((v1_relat_1 X2)\wedge((v5_relat_1 X2 X0)\wedge(v1_funct_1 \\ & X2))))\wedge((v1_relat_1 X3)\wedge((v5_relat_1 X3 X1)\wedge(v1_funct_1 X3))))\Rightarrow \\ & ((v1_relat_1 (k72_valued_2 X0 X1 X2 X3))\wedge(v1_funct_1 (k72_valued_2 \\ & X0 X1 X2 X3))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1)\Leftrightarrow(\forall X3. (X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_valued_2 X0)\Rightarrow(\forall X1.(v1_valued_2 X1)\Rightarrow(\forall X2. \\ & ((v1_relat_1 X2)\wedge((v5_relat_1 X2 X0)\wedge(v1_funct_1 X2)))\Rightarrow(\forall X3. \\ & ((v1_relat_1 X3)\wedge((v5_relat_1 X3 X1)\wedge(v1_funct_1 X3)))\Rightarrow(\forall X4. \\ & ((v1_relat_1 X4)\wedge(v1_funct_1 X4))\Rightarrow((X4 = k72_valued_2 X0 X1 X2 \\ & X3)\Leftrightarrow((k9_xtuple_0 X4 = k3_xboole_0 (k9_xtuple_0 X2) (k9_xtuple_0 \\ & X3))\wedge(\forall X5.(X5 \in k9_xtuple_0 X4)\Rightarrow(k1_funct_1 X4 X5 = k1_valued_1 \\ & (k1_funct_1 X2 X5) (k1_funct_1 X3 X5)))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 \\ & X0)))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_valued_0 X1))))\Rightarrow \\ & (k1_valued_1 X0 X1 = k1_valued_1 X1 X0) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(v1_valued_2 X1)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v1_funct_1 X2)\Rightarrow((v1_funct_1 X2)\wedge(v7_valued_2 X2)))) \quad (14)$$

Assume the following.

$$\forall X0.(v1_valued_2 X0)\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge((v5_relat_1 X1 X0)\wedge(v1_funct_1 X1)))\Rightarrow((v1_relat_1 X1)\wedge((v5_relat_1 X1 X0)\wedge((v1_funct_1 X1)\wedge(v7_valued_2 X1)))))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(v1_valued_2 X3)\Rightarrow \\ & (\forall X4.(v1_valued_2 X4)\Rightarrow(\forall X5.(v1_valued_2 X5)\Rightarrow(\\ & \forall X6.((v1_funct_1 X6)\wedge(m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 X0 X3))))\Rightarrow(\forall X7.((v1_funct_1 X7)\wedge(m1_subset_1 X7 (k1_zfmisc_1 (k2_zfmisc_1 X1 X4))))\Rightarrow(\forall X8.((v1_funct_1 X8)\wedge(m1_subset_1 X8 (k1_zfmisc_1 (k2_zfmisc_1 X2 X5))))\Rightarrow(k73_valued_2 (k3_xboole_0 X0 X1) X2 (k2_valued_2 (k3_xboole_0 (k1_valued_2 X3) (k1_valued_2 X4))) X5 (k73_valued_2 X0 X1 X3 X4 X6 X7) X8 = k73_valued_2 X0 (k3_xboole_0 X1 X2) X3 (k2_valued_2 (k3_xboole_0 (k1_valued_2 X4) (k1_valued_2 X5))) X6 (k73_valued_2 X1 X2 X4 X5 X7 X8)))))) \end{aligned}$$