

t85_valued_2

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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 $k84_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_valued_2 : \iota \Rightarrow \iota$ be given. Let $k1_valued_2 : \iota \Rightarrow \iota$ be given. Let $k16_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $k18_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k83_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_valued_2 : \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & X1)))) \Rightarrow (k30_valued_1 (k18_valued_1 X0 X1) = k18_valued_1 (k30_valued_1 \\ & X0) X1)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((v1_valued_2 X2) \wedge ((v1_valued_2 X3) \wedge (((v1_funct_1 X4) \wedge (m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2)))) \wedge ((v1_funct_1 X5) \wedge (m1_subset_1 \\ & X5 (k1_zfmisc_1 (k2_zfmisc_1 X1 X3)))))))) \Rightarrow (k84_valued_2 X0 X1 \\ & X2 X3 X4 X5 = k83_valued_2 X2 X3 X4 X5) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_valued_2 X1) \wedge ((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow (k16_valued_2 \\ & X0 X1 X2 = k15_valued_2 X2) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (k30_valued_1 (k30_valued_1 X0) = X0) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v7_valued_2 X0)))\Rightarrow(v1_valued_0 (k1_funct_1 X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v7_valued_2 X0)))\Rightarrow((v1_relat_1 (k1_funct_1 X0 X1))\wedge(v1_funct_1 (k1_funct_1 X0 X1))) \quad (6)$$

Assume the following.

$$\forall X0.v1_valued_2 (k2_valued_2 X0) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & ((v1_valued_2 X2)\wedge((v1_valued_2 X3)\wedge(((v1_funct_1 X4)\wedge(m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2))))\wedge((v1_funct_1 X5)\wedge(m1_subset_1 \\ & X5 (k1_zfmisc_1 (k2_zfmisc_1 X1 X3))))))\Rightarrow((v1_funct_1 (k84_valued_2 \\ & X0 X1 X2 X3 X4 X5))\wedge(m1_subset_1 (k84_valued_2 X0 X1 X2 X3 X4 X5) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k3_xboole_0 X0 X1) (k2_valued_2 (k3_xboole_0 (k1_valued_2 \\ & X2) (k1_valued_2 X3))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_valued_2 X0)\wedge \\ & ((v1_valued_2 X1)\wedge(((v1_relat_1 X2)\wedge((v5_relat_1 X2 X0)\wedge(v1_funct_1 \\ & X2)))\wedge((v1_relat_1 X3)\wedge((v5_relat_1 X3 X1)\wedge(v1_funct_1 X3))))))\Rightarrow \\ & ((v1_relat_1 (k83_valued_2 X0 X1 X2 X3))\wedge(v1_funct_1 (k83_valued_2 \\ & X0 X1 X2 X3))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_valued_2 X1)\wedge((v1_funct_1 \\ & X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 \\ & (k16_valued_2 X0 X1 X2))\wedge(m1_subset_1 (k16_valued_2 X0 X1 X2) (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 (k2_valued_2 (k1_valued_2 X1)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v7_valued_2 X0)))\Rightarrow ((v1_relat_1 (k15_valued_2 X0))\wedge(v1_funct_1 (k15_valued_2 X0))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1)\Leftrightarrow(\forall X3. (X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \quad (12)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_valued_2 X0) \Rightarrow (\forall X1.(v1_valued_2 X1) \Rightarrow (\forall X2. \\
& ((v1_relat_1 X2) \wedge ((v5_relat_1 X2 X0) \wedge (v1_funct_1 X2))) \Rightarrow (\forall X3. \\
& ((v1_relat_1 X3) \wedge ((v5_relat_1 X3 X1) \wedge (v1_funct_1 X3))) \Rightarrow (\forall X4. \\
& ((v1_relat_1 X4) \wedge (v1_funct_1 X4)) \Rightarrow ((X4 = k83_valued_2 X0 X1 X2 \\
& X3) \Leftrightarrow ((k9_xtuple_0 X4 = k3_xboole_0 (k9_xtuple_0 X2) (k9_xtuple_0 \\
& X3)) \wedge (\forall X5.(X5 \in k9_xtuple_0 X4) \Rightarrow (k1_funct_1 X4 X5 = k18_valued_1 \\
& (k1_funct_1 X2 X5) (k1_funct_1 X3 X5)))))))))
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v7_valued_2 X0))) \Rightarrow \\
& (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k15_valued_2 \\
& X0) \Leftrightarrow ((k9_xtuple_0 X1 = k9_xtuple_0 X0) \wedge (\forall X2.(X2 \in k9_xtuple_0 \\
& X1) \Rightarrow (k1_funct_1 X1 X2 = k30_valued_1 (k1_funct_1 X0 X2))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 \\
& X0))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow \\
& (k18_valued_1 X0 X1 = k18_valued_1 X1 X0)
\end{aligned} \tag{16}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1))
\end{aligned} \tag{17}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(v1_valued_2 X1) \Rightarrow (\forall X2.(m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_funct_1 X2) \Rightarrow ((v1_funct_1 \\
& X2) \wedge (v7_valued_2 X2))))
\end{aligned} \tag{18}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_valued_2 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((\\
& v5_relat_1 X1 X0) \wedge (v1_funct_1 X1))) \Rightarrow ((v1_relat_1 X1) \wedge ((v5_relat_1 \\
& X1 X0) \wedge ((v1_funct_1 X1) \wedge (v7_valued_2 X1))))))
\end{aligned} \tag{19}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2)
\end{aligned} \tag{20}$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(v1_valued_2 X2)\Rightarrow(\forall X3. \\ & (v1_valued_2 X3)\Rightarrow(\forall X4.((v1_funct_1 X4)\wedge(m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2))))\Rightarrow(\forall X5.((v1_funct_1 \\ & X5)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X1 X3))))\Rightarrow(k84_valued_2 \\ & X0 X1 (k2_valued_2 (k1_valued_2 X2)) X3 (k16_valued_2 X0 X2 X4) X5 = \\ & k16_valued_2 (k3_xboole_0 X0 X1) (k2_valued_2 (k3_xboole_0 (k1_valued_2 \\ & X2) (k1_valued_2 X3))) (k84_valued_2 X0 X1 X2 X3 X4 X5)))))) \end{aligned}$$