

t61_valued_2

(TMU8GWEAfaAaBr9yihutG9rSDgeTPZbUWSe)

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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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k57_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k51_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & ((k9_xtuple_0 (k30_valued_1 X0) = k9_xtuple_0 X0) \wedge (\forall X1. \\ & k1_funct_1 (k30_valued_1 X0) X1 = k4_xcmplx_0 (k1_funct_1 X0 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k8_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (3)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_valued_2 X0) \wedge ((v1_relat_1 X1) \wedge ((v5_relat_1 X1 X0) \wedge (v1_funct_1 X1)))) \wedge ((v1_relat_1 X2) \wedge \\ & ((v1_funct_1 X2) \wedge (v1_valued_0 X2)))) \Rightarrow ((v1_relat_1 (k51_valued_2 X0 X1 X2)) \wedge (v1_funct_1 (k51_valued_2 X0 X1 X2))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v1_valued_2 X0)\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge((v5_relat_1 X1 X0)\wedge(v1_funct_1 X1)))\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge((v1_funct_1 X2)\wedge(v1_valued_0 X2)))\Rightarrow(k57_valued_2 X0 X1 X2 = k51_valued_2 X0 X1 (k30_valued_1 X2)))) \quad (7)$$

Assume the following.

$$\forall X0.(v1_valued_2 X0)\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge((v5_relat_1 X1 X0)\wedge(v1_funct_1 X1)))\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge((v1_funct_1 X2)\wedge(v1_valued_0 X2)))\Rightarrow(\forall X3.((v1_relat_1 X3)\wedge(v1_funct_1 X3))\Rightarrow((X3 = k51_valued_2 X0 X1 X2)\Leftrightarrow((k9_xtuple_0 X3 = k3_xboole_0 (k9_xtuple_0 X1) (k9_xtuple_0 X2))\wedge(\forall X4.(X4 \in k9_xtuple_0 X3)\Rightarrow(k1_funct_1 X3 X4 = k7_valued_1 (k1_funct_1 X1 X4) (k1_funct_1 X2 X4)))))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (11)$$

Theorem 1

$$\forall X0.\forall X1.(v1_valued_2 X1)\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(\forall X3.((v1_relat_1 X3)\wedge((v1_funct_1 X3)\wedge(v1_valued_0 X3)))\Rightarrow(k9_xtuple_0 (k57_valued_2 X1 X2 X3) = k8_subset_1 X0 (k1_relset_1 X0 X2) (k9_xtuple_0 X3))))$$