

t30_comseq_1

(TMSk6RqhumYaq95Kseiv4EqjWwNTHBSC9dT)

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Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k2_numbers : \iota$ 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 $r2_rerset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k19_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k36_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k18_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k35_valued_1 : \iota \Rightarrow \iota$ be given. Let $k5_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow \\ & (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow ((\forall X4. (m1_subset_1 \\ & X4 X0) \Rightarrow (k1_funct_1 X2 X4 = k1_funct_1 X3 X4)) \Rightarrow (r2_rerset_1 X0 X1 \\ & X2 X3))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & X1))) \Rightarrow (\forall X2. k1_funct_1 (k18_valued_1 X0 X1) X2 = k3_xcmplx_0 \\ & (k1_funct_1 X0 X2) (k1_funct_1 X1 X2))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1. k1_funct_1 (k35_valued_1 X0) X1 = k5_xcmplx_0 (k1_funct_1 \\ & X0 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(k3_xcmplx_0 (k5_xcmplx_0 X0) (k5_xcmplx_0 X1) = k5_xcmplx_0 (k3_xcmplx_0 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_membered X1)\wedge((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow(k36_valued_1 X0 X1 X2 = k35_valued_1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v1_membered X1)\wedge((v1_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2)))))))\Rightarrow(k19_valued_1 X0 X1 X2 X3 X4 = k18_valued_1 X3 X4) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0 X1)\wedge(v1_membered X1))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow((v1_funct_1 (k35_valued_1 X2))\wedge(v1_partfun1 (k35_valued_1 X2) X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\Rightarrow(v1_xcmplx_0 (k1_funct_1 X0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v1_xboole_0 X1)\wedge(v1_membered X1))\wedge(((\neg v1_xboole_0 X2)\wedge(v1_membered X2))\wedge(((v1_funct_1 X3)\wedge((v1_funct_2 X3 X0 X1)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge((v1_funct_2 X4 X0 X2)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2))))))))))\Rightarrow((v1_funct_1 (k18_valued_1 X3 X4))\wedge(v1_partfun1 (k18_valued_1 X3 X4) X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_valued_0 X1))))\Rightarrow((v1_relat_1 (k18_valued_1 X0 X1))\wedge((v1_funct_1 (k18_valued_1 X0 X1))\wedge(v1_valued_0 (k18_valued_1 X0 X1)))) \quad (10)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (11)$$

Assume the following.

$$v1_membered\ k2_numbers \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_relat_1\ X1)\wedge((v4_relat_1\ X1\ X0)\wedge \\ (v1_funct_1\ X1)\wedge((v1_partfun1\ X1\ X0)\wedge(v1_valued_0\ X1))))\Rightarrow(\\ (v1_relat_1\ (k35_valued_1\ X1))\wedge((v1_funct_1\ (k35_valued_1\ X1))\wedge \\ ((v1_partfun1\ (k35_valued_1\ X1)\ X0)\wedge(v1_valued_0\ (k35_valued_1 \\ X1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v1_membered\ X1)\wedge((v1_funct_1 \\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))\Rightarrow((v1_funct_1 \\ (k36_valued_1\ X0\ X1\ X2))\wedge(m1_subset_1\ (k36_valued_1\ X0\ X1\ X2)\ (\\ k1_zfmisc_1\ (k2_zfmisc_1\ X0\ k2_numbers)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_valued_0\ X0)))\Rightarrow \\ ((v1_relat_1\ (k35_valued_1\ X0))\wedge((v1_funct_1\ (k35_valued_1 \\ X0))\wedge(v1_valued_0\ (k35_valued_1\ X0)))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v1_membered \\ X1)\wedge((v1_membered\ X2)\wedge(((v1_funct_1\ X3)\wedge(m1_subset_1\ X3\ (k1_zfmisc_1 \\ (k2_zfmisc_1\ X0\ X1))))\wedge((v1_funct_1\ X4)\wedge(m1_subset_1\ X4\ (k1_zfmisc_1 \\ (k2_zfmisc_1\ X0\ X2))))))\Rightarrow((v1_funct_1\ (k19_valued_1\ X0\ X1\ X2 \\ X3\ X4))\wedge(m1_subset_1\ (k19_valued_1\ X0\ X1\ X2\ X3\ X4)\ (k1_zfmisc_1 \\ (k2_zfmisc_1\ X0\ k2_numbers)))) \end{aligned} \quad (16)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_relat_1\ X2) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow((v1_partfun1\ X2\ X0)\Rightarrow(v1_funct_2\ X2\ X0\ X1)) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1_membered\ X1)\Rightarrow(\forall X2.(m1_subset_1 \\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_valued_0\ X2)) \end{aligned} \quad (20)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ & (r2_relset_1 k5_numbers k2_numbers (k19_valued_1 k5_numbers \\ & k2_numbers k2_numbers (k36_valued_1 k5_numbers k2_numbers X0) \\ & (k36_valued_1 k5_numbers k2_numbers X1)) (k36_valued_1 k5_numbers \\ & k2_numbers (k19_valued_1 k5_numbers k2_numbers k2_numbers X0 \\ & X1)))) \end{aligned}$$