

t49_comseq_1 (TMHM-
RQoY5ZLTeqhy96CYHRM9ujUqGAivAun)

October 27, 2020

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 $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k55_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k51_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k52_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k37_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k36_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k50_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $k35_valued_1 : \iota \Rightarrow \iota$ be given. Let $k18_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))) \Rightarrow \\ & (r2_relset_1 k5_numbers k1_numbers (k37_valued_1 k5_numbers \\ & k1_numbers (k55_valued_1 k5_numbers k2_numbers X0)) (k55_valued_1 \\ & k5_numbers k2_numbers (k36_valued_1 k5_numbers k2_numbers X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))) \Rightarrow \\ & (r2_relset_1 k5_numbers k1_numbers (k55_valued_1 k5_numbers \\ & k2_numbers (k19_valued_1 k5_numbers k2_numbers k2_numbers X0 \\ & X1)) (k20_valued_1 k5_numbers k1_numbers k1_numbers (k55_valued_1 \\ & k5_numbers k2_numbers X0) (k55_valued_1 k5_numbers k2_numbers \\ & X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((r2_relset_1 X0 X1 X2 X3)\Leftrightarrow(X2 = X3)) \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered X1)\wedge((v3_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2))))))))\Rightarrow(k52_valued_1 X0 X1 X2 X3 X4 = k50_valued_1 X3 X4) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v1_membered X1)\wedge((v1_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2))))))))\Rightarrow(k51_valued_1 X0 X1 X2 X3 X4 = k50_valued_1 X3 X4) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v3_membered X1)\wedge((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))\Rightarrow(k37_valued_1 X0 X1 X2 = k35_valued_1 X2) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_membered X1)\wedge((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))\Rightarrow(k36_valued_1 X0 X1 X2 = k35_valued_1 X2) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered X1)\wedge((v3_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2))))))))\Rightarrow(k20_valued_1 X0 X1 X2 X3 X4 = k18_valued_1 X3 X4) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v1_membered \\ & X1)\wedge((v1_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2))))))\Rightarrow(k19_valued_1 X0 X1 X2 X3 X4 = k18_valued_1 \\ & X3 X4) \end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0 X1)\wedge(v1_membered \\ & X1))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow((v1_funct_1 (k35_valued_1 \\ & X2))\wedge(v1_partfun1 (k35_valued_1 X2) X0)) \end{aligned} \tag{11}$$

Assume the following.

$$v3_membered k1_numbers \tag{12}$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \tag{13}$$

Assume the following.

$$v1_membered k2_numbers \tag{14}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_membered X1)\wedge((v1_funct_1 \\ & X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 \\ & (k55_valued_1 X0 X1 X2))\wedge(m1_subset_1 (k55_valued_1 X0 X1 X2) (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v3_membered X1)\wedge((v1_funct_1 \\ & X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 \\ & (k37_valued_1 X0 X1 X2))\wedge(m1_subset_1 (k37_valued_1 X0 X1 X2) (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \end{aligned} \tag{16}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_membered X1)\wedge((v1_funct_1 \\ & X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 \\ & (k36_valued_1 X0 X1 X2))\wedge(m1_subset_1 (k36_valued_1 X0 X1 X2) (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \end{aligned} \tag{17}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & X1)))) \Rightarrow (k50_valued_1 X0 X1 = k18_valued_1 X0 (k35_valued_1 X1))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(v3_membered X0) \Rightarrow (v1_membered X0) \quad (19)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_partfun1 X2 X0) \Rightarrow (v1_funct_2 X2 X0 X1)) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v1_membered X1) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_valued_0 X2)) \end{aligned} \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ & (r2_relset_1 k5_numbers k1_numbers (k55_valued_1 k5_numbers \\ & k2_numbers (k51_valued_1 k5_numbers k2_numbers k2_numbers X0 \\ & X1)) (k52_valued_1 k5_numbers k1_numbers k1_numbers (k55_valued_1 \\ & k5_numbers k2_numbers X0) (k55_valued_1 k5_numbers k2_numbers \\ & X1)))) \end{aligned}$$