

t15_seqfunc
(TMXk32X2bRGF7Yf6iTuCkLw6xoAAE5zwD9c)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. 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 $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ 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 $k3_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k4_rfunct_1 : \iota \Rightarrow \iota$ be given. Let $k54_valued_1 : \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k6_rfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $k56_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow (k4_rfunct_1 (k54_valued_1 X0) = k54_valued_1 (k4_rfunct_1 X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v3_membered X1) \wedge ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))) \Rightarrow (k6_rfunct_1 X0 X1 X2 = k4_rfunct_1 X2) \quad (3)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_membered\ X1)\wedge((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))\Rightarrow(k56_valued_1\ X0\ X1\ X2 = k54_valued_1\ X2)$$

(5)

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ k5_numbers\ (k4_partfun1\ X0\ X1))\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (k4_partfun1\ X0\ X1))))))\wedge(v7_ordinal1\ X3))\Rightarrow(k1_seqfunc\ X0\ X1\ X2\ X3 = k1_funct_1\ X2\ X3)$$

(6)

Assume the following.

$$v3_membered\ k1_numbers$$

(7)

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v3_membered\ X1)\wedge((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))\Rightarrow((v1_funct_1\ (k6_rfunct_1\ X0\ X1\ X2))\wedge(m1_subset_1\ (k6_rfunct_1\ X0\ X1\ X2)\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ k1_numbers))))$$

(8)

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0\ X0)\wedge((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ k5_numbers\ (k4_partfun1\ X0\ k1_numbers))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (k4_partfun1\ X0\ k1_numbers))))))\Rightarrow((v1_funct_1\ (k5_seqfunc\ X0\ X1))\wedge((v1_funct_2\ (k5_seqfunc\ X0\ X1)\ k5_numbers\ (k4_partfun1\ X0\ k1_numbers))\wedge(m1_subset_1\ (k5_seqfunc\ X0\ X1)\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (k4_partfun1\ X0\ k1_numbers))))))$$

(9)

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_membered\ X1)\wedge((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))\Rightarrow((v1_funct_1\ (k56_valued_1\ X0\ X1\ X2))\wedge(m1_subset_1\ (k56_valued_1\ X0\ X1\ X2)\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ k1_numbers))))$$

(10)

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0\ X0)\wedge((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ k5_numbers\ (k4_partfun1\ X0\ k1_numbers))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (k4_partfun1\ X0\ k1_numbers))))))\Rightarrow((v1_funct_1\ (k3_seqfunc\ X0\ X1))\wedge((v1_funct_2\ (k3_seqfunc\ X0\ X1)\ k5_numbers\ (k4_partfun1\ X0\ k1_numbers))\wedge(m1_subset_1\ (k3_seqfunc\ X0\ X1)\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (k4_partfun1\ X0\ k1_numbers))))))$$

(11)

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 k5_numbers (k4_partfun1 X0 X1)) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 X1)))))) \wedge \\ & (v7_ordinal1 X3)) \Rightarrow ((v1_funct_1 (k1_seqfunc X0 X1 X2 X3)) \wedge (m1_subset_1 \\ & (k1_seqfunc X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\ & (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers (k4_partfun1 \\ & X0 k1_numbers)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ & (k4_partfun1 X0 k1_numbers)))))) \Rightarrow ((X2 = k5_seqfunc X0 X1) \Leftrightarrow (\forall X3. \\ & (v7_ordinal1 X3) \Rightarrow (r2_relset_1 X0 k1_numbers (k1_seqfunc X0 k1_numbers \\ & X2 X3) (k56_valued_1 X0 k1_numbers (k1_seqfunc X0 k1_numbers X1 \\ & X3)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\ & (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers (k4_partfun1 \\ & X0 k1_numbers)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ & (k4_partfun1 X0 k1_numbers)))))) \Rightarrow ((X2 = k3_seqfunc X0 X1) \Leftrightarrow (\forall X3. \\ & (v7_ordinal1 X3) \Rightarrow (r2_relset_1 X0 k1_numbers (k1_seqfunc X0 k1_numbers \\ & X2 X3) (k6_rfunct_1 X0 k1_numbers (k1_seqfunc X0 k1_numbers X1 X3)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0. (v3_membered X0) \Rightarrow (v1_membered X0) \quad (15)$$

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. (v1_membered X1) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_valued_0 X2)) \quad (17)$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\ & (r2_relset_1 k5_numbers (k4_partfun1 X0 k1_numbers) (k3_seqfunc \\ & X0 (k5_seqfunc X0 X1)) (k5_seqfunc X0 (k3_seqfunc X0 X1)))) \end{aligned}$$