

# t14\_seqfunc

(TMFg2BkoQxiNbYLSRYociv1zBRKqffACVB)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  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  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  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  $k2\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k4\_rfunct\_1 : \iota \Rightarrow \iota$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_xcmplx\_0 : \iota \Rightarrow \iota$  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  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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. Let  $v1\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ & (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow ((X1 \neq k6\_numbers) \Rightarrow (k4\_rfunct\_1 \\ & (k24\_valued\_1 X0 X1) = k24\_valued\_1 (k4\_rfunct\_1 X0) (k5\_xcmplx\_0 \\ & X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((r2\_relset\_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v3\_membered X1) \wedge ((v1\_funct\_1 \\ & X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow (k6\_rfunct\_1 \\ & X0 X1 X2 = k4\_rfunct\_1 X2) \end{aligned} \tag{3}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{4}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (k2\_real\_1 X0 = k5\_xcmplx\_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3\_membered X1) \wedge \\ & (((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \wedge (v1\_xreal\_0 X3))) \Rightarrow (k26\_valued\_1 X0 X1 X2 X3 = k24\_valued\_1 \\ & X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2) \wedge \\ & ((v1\_funct\_2 X2 k5\_numbers (k4\_partfun1 X0 X1)) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 X1)))))) \wedge \\ & (v7\_ordinal1 X3)) \Rightarrow (k1\_seqfunc X0 X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((v1\_xcmplx\_0 (k5\_xcmplx\_0 X0)) \wedge (v1\_xreal\_0 (k5\_xcmplx\_0 X0))) \quad (8)$$

Assume the following.

$$v3\_membered k1\_numbers \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v3\_membered X1) \wedge ((v1\_funct\_1 \\ & X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow ((v1\_funct\_1 \\ & (k6\_rfunct\_1 X0 X1 X2)) \wedge (m1\_subset\_1 (k6\_rfunct\_1 X0 X1 X2) (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 k1\_numbers)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((v1\_funct\_1 X1) \wedge \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)))))) \Rightarrow \\ & ((v1\_funct\_1 (k3\_seqfunc X0 X1)) \wedge ((v1\_funct\_2 (k3\_seqfunc X0 \\ & X1) k5\_numbers (k4\_partfun1 X0 k1\_numbers)) \wedge (m1\_subset\_1 (k3\_seqfunc \\ & X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(((v1\_funct\_1 \\ & X1)\wedge((v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ & X0 k1\_numbers))))))\wedge(v1\_xreal\_0 X2)))\Rightarrow((v1\_funct\_1 (k2\_seqfunc \\ & X0 X1 X2))\wedge((v1\_funct\_2 (k2\_seqfunc X0 X1 X2) k5\_numbers (k4\_partfun1 \\ & X0 k1\_numbers))\wedge(m1\_subset\_1 (k2\_seqfunc X0 X1 X2) (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3\_membered X1)\wedge \\ & (((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1))))\wedge(v1\_xreal\_0 X3)))\Rightarrow((v1\_funct\_1 (k26\_valued\_1 X0 X1 \\ & X2 X3))\wedge(m1\_subset\_1 (k26\_valued\_1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 k1\_numbers)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2)\wedge \\ & ((v1\_funct\_2 X2 k5\_numbers (k4\_partfun1 X0 X1))\wedge(m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 X1))))))\wedge \\ & (v7\_ordinal1 X3))\Rightarrow((v1\_funct\_1 (k1\_seqfunc X0 X1 X2 X3))\wedge(m1\_subset\_1 \\ & (k1\_seqfunc X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))))))\Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 k5\_numbers (k4\_partfun1 \\ & X0 k1\_numbers))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ & (k4\_partfun1 X0 k1\_numbers))))))\Rightarrow((X2 = k3\_seqfunc X0 X1)\Leftrightarrow(\forall X3. \\ & (v7\_ordinal1 X3)\Rightarrow(r2\_relset\_1 X0 k1\_numbers (k1\_seqfunc X0 k1\_numbers \\ & X2 X3) (k6\_rfunct\_1 X0 k1\_numbers (k1\_seqfunc X0 k1\_numbers X1 X3)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))))))\Rightarrow \\ & (\forall X2.(v1\_xreal\_0 X2)\Rightarrow(\forall X3.((v1\_funct\_1 X3)\wedge(( \\ & v1\_funct\_2 X3 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))))))\Rightarrow \\ & ((X3 = k2\_seqfunc X0 X1 X2)\Leftrightarrow(\forall X4.(v7\_ordinal1 X4)\Rightarrow(r2\_relset\_1 \\ & X0 k1\_numbers (k1\_seqfunc X0 k1\_numbers X3 X4) (k26\_valued\_1 X0 \\ & k1\_numbers (k1\_seqfunc X0 k1\_numbers X1 X4) X2)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(v1\_membered\ X0) \quad (17)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xcmplx\_0\ X0) \quad (18)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_valued\_0\ X2)) \quad (21)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow \\ &(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ k5\_numbers\ (k4\_partfun1 \\ &X0\ k1\_numbers))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers \\ &(k4\_partfun1\ X0\ k1\_numbers))))))\Rightarrow((X1\neq k6\_numbers)\Rightarrow(r2\_relset\_1 \\ &k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers)\ (k3\_seqfunc\ X0\ (k2\_seqfunc \\ &X0\ X2\ X1))\ (k2\_seqfunc\ X0\ (k3\_seqfunc\ X0\ X2)\ (k2\_real\_1\ X1)))))) \end{aligned}$$