

# t42\_seqfunc (TM- ReGJ1g17q8fHfUGAbubWqQXE3n3GHumnf)

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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  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow o$  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  $r2\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k11\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_comseq\_2 : \iota \Rightarrow o$  be given. Let  $k2\_seq\_2 : \iota \Rightarrow \iota$  be given. Let  $k4\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_membered : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\ & X1 k5\_numbers k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers k1\_numbers)))))) \Rightarrow ((v2\_comseq\_2 X1) \Rightarrow (k2\_seq\_2 (k26\_valued\_1 \\ & k5\_numbers k1\_numbers X1 X0) = k4\_real\_1 X0 (k2\_seq\_2 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\ & X1 k5\_numbers k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers k1\_numbers)))))) \Rightarrow ((v2\_comseq\_2 X1) \Rightarrow (v2\_comseq\_2 \\ & (k26\_valued\_1 k5\_numbers k1\_numbers X1 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 k1\_numbers) \Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (k4\_partfun1 \\ & X0 k1\_numbers)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ & (k4\_partfun1 X0 k1\_numbers)))))) \Rightarrow (\forall X3.(r1\_seqfunc X0 \\ & k1\_numbers X2 X3) \Rightarrow (r1\_seqfunc X0 k1\_numbers (k2\_seqfunc X0 X2 X1) \\ & X3)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 k1\_numbers) \Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (k4\_partfun1 \\ & X0 k1\_numbers)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ & (k4\_partfun1 X0 k1\_numbers)))))) \Rightarrow (\forall X3.(r1\_seqfunc X0 \\ & k1\_numbers X2 X3) \Rightarrow (\forall X4.(m1\_subset\_1 X4 X0) \Rightarrow ((X4 \in X3) \Rightarrow ( \\ & r2\_relset\_1 k5\_numbers k1\_numbers (k10\_seqfunc X0 (k2\_seqfunc \\ & X0 X2 X1) X4) (k26\_valued\_1 k5\_numbers k1\_numbers (k10\_seqfunc \\ & X0 X2 X4) X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)))))) \Rightarrow \\ & (\forall X2.(r2\_seqfunc X0 X1 X2) \Leftrightarrow ((r1\_seqfunc X0 k1\_numbers X1 \\ & X2) \wedge (\forall X3.(m1\_subset\_1 X3 X0) \Rightarrow ((X3 \in X2) \Rightarrow (v2\_comseq\_2 ( \\ & k10\_seqfunc X0 X1 X3)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((r2\_relset\_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (6)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (m1\_subset\_1 X1 k1\_numbers)) \Rightarrow \\ & (k4\_real\_1 X0 X1 = k3\_xcmplx\_0 X0 X1) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3\_membered X1) \wedge \\ & (((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \wedge (v1\_xreal\_0 X3))) \Rightarrow (k26\_valued\_1 X0 X1 X2 X3 = k24\_valued\_1 \\ & X2 X3) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\Rightarrow(k1\_seq\_1 X0 X1 = k1\_funct\_1 X0 X1) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (11)$$

Assume the following.

$$v3\_membered k1\_numbers \quad (12)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(((v1\_funct\_1 \\ &X1)\wedge((v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge \\ &(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ &X0 k1\_numbers))))))\wedge(v1\_xreal\_0 X2)))\Rightarrow((v1\_funct\_1 (k2\_seqfunc \\ &X0 X1 X2))\wedge((v1\_funct\_2 (k2\_seqfunc X0 X1 X2) k5\_numbers (k4\_partfun1 \\ &X0 k1\_numbers))\wedge(m1\_subset\_1 (k2\_seqfunc X0 X1 X2) (k1\_zfmisc\_1 \\ &(k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} &\forall X0.((v1\_funct\_1 X0)\wedge((v1\_funct\_2 X0 k5\_numbers k1\_numbers)\wedge \\ &(m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))\Rightarrow \\ &(m1\_subset\_1 (k2\_seq\_2 X0) k1\_numbers) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.\forall X3.((v3\_membered X1)\wedge \\ &(((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ &X0 X1))))\wedge(v1\_xreal\_0 X3)))\Rightarrow((v1\_funct\_1 (k26\_valued\_1 X0 X1 \\ &X2 X3))\wedge(m1\_subset\_1 (k26\_valued\_1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ &X0 k1\_numbers)))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 \\ &X1)\wedge((v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge \\ &(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ &X0 k1\_numbers))))))\Rightarrow((v1\_funct\_1 (k11\_seqfunc X0 X1 X2))\wedge(m1\_subset\_1 \\ &(k11\_seqfunc X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge (((v1\_funct\_1 \\ & X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ & X0 k1\_numbers)))))) \wedge (m1\_subset\_1 X2 X0))) \Rightarrow ((v1\_funct\_1 (k10\_seqfunc \\ & X0 X1 X2)) \wedge ((v1\_funct\_2 (k10\_seqfunc X0 X1 X2) k5\_numbers k1\_numbers) \wedge \\ & (m1\_subset\_1 (k10\_seqfunc X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers k1\_numbers)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ & (\forall X1. (v1\_xcmplx\_0 X1) \Rightarrow (\forall X2. ((v1\_relat\_1 X2) \wedge ( \\ & v1\_funct\_1 X2)) \Rightarrow ((X2 = k24\_valued\_1 X0 X1) \Leftrightarrow ((k9\_xtuple\_0 X2 = k9\_xtuple\_0 \\ & X0) \wedge (\forall X3. (X3 \in k9\_xtuple\_0 X2) \Rightarrow (k1\_funct\_1 X2 X3 = k3\_xcmplx\_0 \\ & X1 (k1\_funct\_1 X0 X3))))))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)))))) \Rightarrow \\ & (\forall X2. (r2\_seqfunc X0 X1 X2) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge \\ & (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \Rightarrow \\ & ((X3 = k11\_seqfunc X0 X1 X2) \Leftrightarrow ((k1\_relset\_1 X0 X3 = X2) \wedge (\forall X4. \\ & (m1\_subset\_1 X4 X0) \Rightarrow ((X4 \in k1\_relset\_1 X0 X3) \Rightarrow (k1\_seq\_1 X3 X4 = k2\_seq\_2 \\ & (k10\_seqfunc X0 X1 X4)))))))))) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0. (v3\_membered X0) \Rightarrow (v1\_membered X0) \quad (20)$$

Assume the following.

$$\forall X0. (v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \quad (21)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \quad (22)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (23)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v3\_valued\_0\ X2)) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_valued\_0\ X2)) \quad (26)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow \\ &(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ k5\_numbers\ (k4\_partfun1 \\ &X0\ k1\_numbers))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers \\ &(k4\_partfun1\ X0\ k1\_numbers))))))\Rightarrow(\forall X3.(r2\_seqfunc\ X0 \\ &X2\ X3)\Rightarrow((r2\_seqfunc\ X0\ (k2\_seqfunc\ X0\ X2\ X1)\ X3)\wedge(r2\_relset\_1\ X0 \\ &k1\_numbers\ (k11\_seqfunc\ X0\ (k2\_seqfunc\ X0\ X2\ X1)\ X3)\ (k26\_valued\_1 \\ &X0\ k1\_numbers\ (k11\_seqfunc\ X0\ X2\ X3)\ X1)))))) \end{aligned}$$