

t43\_seqfunc  
(TMdzJsikKDbtBZu7ombriV8zPnnFJPZWQzC)

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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  $r3\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)))))) \Rightarrow \\ & (\forall X2.(r3\_seqfunc X0 X1 X2) \Rightarrow (r2\_seqfunc X0 X1 X2))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)))))) \Rightarrow \\ & (\forall X2.\forall X3.((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 k1\_numbers)))) \Rightarrow ((r2\_seqfunc X0 X1 X2) \Rightarrow ((r2\_relset\_1 \\ & X0 k1\_numbers X3 (k11\_seqfunc X0 X1 X2)) \Leftrightarrow ((k1\_relset\_1 X0 X3 = X2) \wedge \\ & (\forall X4.(m1\_subset\_1 X4 X0) \Rightarrow ((X4 \in X2) \Rightarrow (\forall X5.(m1\_subset\_1 \\ & X5 k1\_numbers) \Rightarrow (\neg(\neg r1\_xxreal\_0 X5 k6\_numbers) \wedge (\forall X6.( \\ & m2\_subset\_1 X6 k1\_numbers k5\_numbers) \Rightarrow (\exists X7.(m2\_subset\_1 \\ & X7 k1\_numbers k5\_numbers) \wedge ((r1\_xxreal\_0 X6 X7) \wedge (r1\_xxreal\_0 \\ & X5 (k18\_complex1 (k9\_real\_1 (k1\_seq\_1 (k1\_seqfunc X0 k1\_numbers \\ & X1 X7) X4) (k1\_seq\_1 X3 X4)))))))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))))\Rightarrow((r2\_relset\_1 X0 X1 X2 X3)\Leftrightarrow(X2 = X3)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 \\ & X1)\wedge((v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ & X0 k1\_numbers))))))\Rightarrow((v1\_funct\_1 (k11\_seqfunc X0 X1 X2))\wedge(m1\_subset\_1 \\ & (k11\_seqfunc X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))))))\Rightarrow \\ & (\forall X2.(r3\_seqfunc X0 X1 X2)\Leftrightarrow((r1\_seqfunc X0 k1\_numbers X1 \\ & X2)\wedge(\exists X3.((v1\_funct\_1 X3)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 k1\_numbers))))\wedge((X2 = k1\_relset\_1 X0 X3)\wedge(\forall X4. \\ & (m1\_subset\_1 X4 k1\_numbers)\Rightarrow(\neg(\neg r1\_xxreal\_0 X4 k6\_numbers)\wedge \\ & (\forall X5.(m2\_subset\_1 X5 k1\_numbers k5\_numbers)\Rightarrow(\exists X6. \\ & (m2\_subset\_1 X6 k1\_numbers k5\_numbers)\wedge(\exists X7.(m1\_subset\_1 \\ & X7 X0)\wedge((r1\_xxreal\_0 X5 X6)\wedge((X7 \in X2)\wedge(r1\_xxreal\_0 X4 (k18\_complex1 \\ & (k9\_real\_1 (k1\_seq\_1 (k1\_seqfunc X0 k1\_numbers X1 X6) X7) (k1\_seq\_1 \\ & X3 X7)))))))))))))) \end{aligned} \quad (5)$$

### Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))))))\Rightarrow \\ & (\forall X2.(r3\_seqfunc X0 X1 X2)\Leftrightarrow((r1\_seqfunc X0 k1\_numbers X1 \\ & X2)\wedge((r2\_seqfunc X0 X1 X2)\wedge(\forall X3.(m1\_subset\_1 X3 k1\_numbers)\Rightarrow \\ & (\neg(\neg r1\_xxreal\_0 X3 k6\_numbers)\wedge(\forall X4.(m2\_subset\_1 X4 k1\_numbers \\ & k5\_numbers)\Rightarrow(\exists X5.(m2\_subset\_1 X5 k1\_numbers k5\_numbers)\wedge \\ & (\exists X6.(m1\_subset\_1 X6 X0)\wedge((r1\_xxreal\_0 X4 X5)\wedge((X6 \in X2)\wedge \\ & (r1\_xxreal\_0 X3 (k18\_complex1 (k9\_real\_1 (k1\_seq\_1 (k1\_seqfunc \\ & X0 k1\_numbers X1 X5) X6) (k1\_seq\_1 (k11\_seqfunc X0 X1 X2) X6)))))))))))))) \end{aligned}$$