

# t52\_seq\_4 (TMGesFAzwBgePJsHEWJNCopT- pVPHADwwn7Z)

October 27, 2020

Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_numbers : \iota$  be given. Let  $k5\_finseqop : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k27\_binop\_2 : \iota$  be given. Let  $k25\_binop\_2 : \iota$  be given. Let  $r1\_finseqop : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. 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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_setwiseo : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_finseqop : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$r1\_finseqop\ k2\_numbers\ k25\_binop\_2\ k27\_binop\_2 \quad (1)$$

Assume the following.

$$\neg v1\_xboole\_0\ k2\_numbers \quad (2)$$

Assume the following.

$$(v1\_funct\_1\ k27\_binop\_2) \wedge ((v1\_funct\_2\ k27\_binop\_2\ (k2\_zfmisc\_1\ k2\_numbers\ k2\_numbers)\ k2\_numbers) \wedge ((v1\_binop\_1\ k27\_binop\_2\ k2\_numbers) \wedge (v2\_binop\_1\ k27\_binop\_2\ k2\_numbers))) \quad (3)$$

Assume the following.

$$(v1\_funct\_1\ k27\_binop\_2) \wedge ((v1\_funct\_2\ k27\_binop\_2\ (k2\_zfmisc\_1\ k2\_numbers\ k2\_numbers)\ k2\_numbers) \wedge (v1\_setwiseo\ k27\_binop\_2\ k2\_numbers)) \quad (4)$$

Assume the following.

$$(v1\_funct\_1\ k27\_binop\_2) \wedge ((v1\_funct\_2\ k27\_binop\_2\ (k2\_zfmisc\_1\ k2\_numbers\ k2\_numbers)\ k2\_numbers) \wedge (m1\_subset\_1\ k27\_binop\_2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k2\_numbers\ k2\_numbers)\ k2\_numbers)))) \quad (5)$$

Assume the following.

$$(v1\_funct\_1\ k25\_binop\_2) \wedge ((v1\_funct\_2\ k25\_binop\_2\ k2\_numbers\ k2\_numbers) \wedge (m1\_subset\_1\ k25\_binop\_2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k2\_numbers\ k2\_numbers)))) \quad (6)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((v1\_funct\_1 X2)\wedge((v1\_funct\_2 \\
& X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow \\
& (\forall X3.((v1\_funct\_1 X3)\wedge((v1\_funct\_2 X3 X0 X1)\wedge(m1\_subset\_1 \\
& X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow((r2\_funct\_2 X0 X1 X2 X3)\Leftrightarrow \\
& (\forall X4.(m1\_subset\_1 X4 X0)\Rightarrow(k1\_funct\_1 X2 X4 = k1\_funct\_1 \\
& X3 X4))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge( \\
& (v1\_funct\_2 X1 (k2\_zfmisc\_1 X0 X0) X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0))))\Rightarrow(((v1\_setwise0 X1 X0)\wedge \\
& ((v2\_binop\_1 X1 X0)\wedge(v1\_finseqop X1 X0)))\Rightarrow(\forall X2.((v1\_funct\_1 \\
& X2)\wedge((v1\_funct\_2 X2 X0 X0)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 X0))))\Rightarrow((X2 = k5\_finseqop X0 X1)\Leftrightarrow(r1\_finseqop X0 X2 X1))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge( \\
& (v1\_funct\_2 X1 (k2\_zfmisc\_1 X0 X0) X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0))))\Rightarrow((v1\_finseqop X1 X0)\Leftrightarrow \\
& (\exists X2.((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X0)\wedge(m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0))))\wedge(r1\_finseqop X0 X2 X1))))
\end{aligned} \tag{9}$$

**Theorem 1**

$$r2\_funct\_2 k2\_numbers k2\_numbers (k5\_finseqop k2\_numbers k27\_binop\_2) \\
k25\_binop\_2$$