

## t39\_seq\_1

(TMY9eSJyD2qvFroT2c4kdGmoS7mAwilsuLn)

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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  $k1\_numbers : \iota$  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  $v2\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k52\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k20\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k37\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $k50\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k35\_valued\_1 : \iota \Rightarrow \iota$  be given. Let  $k18\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k1\_numbers) \wedge \\
 & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \Rightarrow \\
 & (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers k1\_numbers) \wedge \\
 & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \Rightarrow \\
 & (((v2\_relat\_1 X0) \wedge (v2\_relat\_1 X1)) \Leftrightarrow (v2\_relat\_1 (k20\_valued\_1 \\
 & k5\_numbers k1\_numbers k1\_numbers X0 X1))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k1\_numbers) \wedge \\
 & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \Rightarrow \\
 & ((v2\_relat\_1 X0) \Rightarrow (v2\_relat\_1 (k37\_valued\_1 k5\_numbers k1\_numbers \\
 & X0)))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((v3\_membered \\
 & X1) \wedge ((v3\_membered X2) \wedge (((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
 & (k2\_zfmisc\_1 X0 X1)))) \wedge ((v1\_funct\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 \\
 & (k2\_zfmisc\_1 X0 X2))))))) \Rightarrow (k52\_valued\_1 X0 X1 X2 X3 X4 = k50\_valued\_1 \\
 & X3 X4)
 \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v3\_membered\ X1)\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))\Rightarrow(k37\_valued\_1\ X0\ X1\ X2 = k35\_valued\_1\ X2)$$
(4)

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3\_membered\ X1)\wedge((v3\_membered\ X2)\wedge(((v1\_funct\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))\wedge((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X2))))))\Rightarrow(k20\_valued\_1\ X0\ X1\ X2\ X3\ X4 = k18\_valued\_1\ X3\ X4)$$
(5)

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v1\_xboole\_0\ X1)\wedge(v3\_membered\ X1))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))\Rightarrow((v1\_funct\_1\ (k35\_valued\_1\ X2))\wedge(v1\_partfun1\ (k35\_valued\_1\ X2)\ X0))$$
(6)

Assume the following.

$$v3\_membered\ k1\_numbers$$
(7)

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers$$
(8)

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v3\_membered\ X1)\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))\Rightarrow((v1\_funct\_1\ (k37\_valued\_1\ X0\ X1\ X2))\wedge(m1\_subset\_1\ (k37\_valued\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))$$
(9)

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0\ X1)))\Rightarrow(k50\_valued\_1\ X0\ X1 = k18\_valued\_1\ X0\ (k35\_valued\_1\ X1)))$$
(10)

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v1\_valued\_0\ X0))$$
(11)

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2)$$
(12)

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v1\_partfun1 X2 X0)\Rightarrow(v1\_funct\_2 X2 X0 X1)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v3\_membered X1)\Rightarrow(\forall X2.(m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v3\_valued\_0 X2)) \end{aligned} \quad (14)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0)\wedge((v1\_funct\_2 X0 k5\_numbers k1\_numbers)\wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers))))))\Rightarrow \\ & (\forall X1.((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers k1\_numbers)\wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers))))))\Rightarrow \\ & (((v2\_relat\_1 X0)\wedge(v2\_relat\_1 X1))\Rightarrow(v2\_relat\_1 (k52\_valued\_1 \\ & k5\_numbers k1\_numbers k1\_numbers X0 X1)))) \end{aligned}$$