

# l13\_random\_2 (TMJSWQqN- rbPf8DfJbw6exsNbLFFkboCowBn)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $m2\_prob\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_random\_1 : \iota \Rightarrow \iota$  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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_bhsp\_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k33\_binop\_2 : \iota$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\ & X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow \\ & (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((\forall X4. (X4 \in X0) \Rightarrow \\ & (k1\_funct\_1 X2 X4 = k1\_funct\_1 X3 X4)) \Rightarrow (r2\_relset\_1 X0 X1 X2 X3))) \end{aligned} \quad (2)$$

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.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1\_funct\_1 X2) \wedge \\ & ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \wedge ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow ((r2\_funct\_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\Rightarrow(k1\_seq\_1 X0 X1 = k1\_funct\_1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_finset\_1 X0)\wedge(v1\_finset\_1 X1))\Rightarrow(v1\_finset\_1 (k2\_zfmisc\_1 X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v5\_relat\_1 X0 k1\_numbers))\Rightarrow((v1\_relat\_1 X0)\wedge(v3\_valued\_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_finset\_1 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(v1\_finset\_1 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (10)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0)\wedge(v1\_finset\_1 X0))\Rightarrow(\forall X1. \\ & ((\neg v1\_xboole\_0 X1)\wedge(v1\_finset\_1 X1))\Rightarrow(\forall X2.(m2\_prob\_1 \\ & X2 X0 (k1\_random\_1 X0))\Rightarrow(\forall X3.(m2\_prob\_1 X3 X1 (k1\_random\_1 \\ & X1))\Rightarrow(\forall X4.((v1\_funct\_1 X4)\wedge((v1\_funct\_2 X4 (k2\_zfmisc\_1 \\ & X0 X1) k1\_numbers)\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1) k1\_numbers))))))\Rightarrow(\forall X5.((v1\_funct\_1 \\ & X5)\wedge((v1\_funct\_2 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)) k1\_numbers)\wedge \\ & (m1\_subset\_1 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)) k1\_numbers))))))\Rightarrow(\forall X6.((v1\_funct\_1 X6)\wedge((v1\_funct\_2 \\ & X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)) k1\_numbers)\wedge(m1\_subset\_1 \\ & X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)) \\ & k1\_numbers))))))\Rightarrow(((\forall X7.((v1\_finset\_1 X7)\wedge(m1\_subset\_1 \\ & X7 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(k1\_seq\_1 X5 X7 = k5\_bhsp\_5 \\ & k1\_numbers (k2\_zfmisc\_1 X0 X1) k33\_binop\_2 X7 X4))\wedge(\forall X7. \\ & ((v1\_finset\_1 X7)\wedge(m1\_subset\_1 X7 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))\Rightarrow(k1\_seq\_1 X6 X7 = k5\_bhsp\_5 k1\_numbers (k2\_zfmisc\_1 X0 \\ & X1) k33\_binop\_2 X7 X4)))\Rightarrow(r2\_funct\_2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)) k1\_numbers X5 X6)))))) \end{aligned}$$