

# t22\_rfunct\_3 (TMYPFmZan- LQUBAwbD4wYo4RmDW1U28EJsyv)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m2\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k14\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_finsop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_rfunct\_3 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m2\_finseq\_1 X1 (k3\_rfunct\_3 \\ & X0 k1\_numbers)) \Rightarrow (\forall X2.(m2\_finseq\_1 X2 (k3\_rfunct\_3 X0 k1\_numbers)) \Rightarrow \\ & (r2\_relset\_1 X0 k1\_numbers (k14\_rfunct\_3 X0 (k8\_finseq\_1 (k3\_rfunct\_3 \\ & X0 k1\_numbers) X1 X2)) (k5\_rfunct\_3 X0 k1\_numbers (k14\_rfunct\_3 \\ & X0 X1) (k14\_rfunct\_3 X0 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X2) \wedge (m1\_rfunct\_3 \\ & X2 X0 X1)) \Rightarrow (\forall X3.(m2\_rfunct\_3 X3 X0 X1 X2) \Leftrightarrow (m1\_subset\_1 X3 \\ & X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.k3\_rfunct\_3 X0 X1 = k4\_partfun1 X0 X1 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (k2\_zfmisc\_1 X0 \\ & X0) X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X0) X0)))))) \Rightarrow (k1\_finsop\_1 X0 (k12\_finseq\_1 X0 X1) X2 = X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\neg v1\_xboole\_0 (k4\_partfun1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.m1\_rfunct\_3 (k3\_rfunct\_3 X0 X1) X0 X1 \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow & ((v1\_funct\_1 (k13\_rfunct\_3 X0))\wedge \\ & ((v1\_funct\_2 (k13\_rfunct\_3 X0) (k2\_zfmisc\_1 (k3\_rfunct\_3 X0 k1\_numbers) \\ & (k3\_rfunct\_3 X0 k1\_numbers)) (k3\_rfunct\_3 X0 k1\_numbers))\wedge(m1\_subset\_1 \\ & (k13\_rfunct\_3 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (k3\_rfunct\_3 \\ & X0 k1\_numbers) (k3\_rfunct\_3 X0 k1\_numbers)) (k3\_rfunct\_3 X0 k1\_numbers)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow (m2\_finseq\_1 (k12\_finseq\_1 X0 X1) X0) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow & (\forall X1.(m2\_finseq\_1 X1 (k3\_rfunct\_3 \\ & X0 k1\_numbers))\Rightarrow(k14\_rfunct\_3 X0 X1 = k1\_finsop\_1 (k3\_rfunct\_3 \\ & X0 k1\_numbers) X1 (k13\_rfunct\_3 X0))) \end{aligned} \quad (9)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow & (\forall X1.(m2\_finseq\_1 X1 (k3\_rfunct\_3 \\ & X0 k1\_numbers))\Rightarrow(\forall X2.(m2\_rfunct\_3 X2 X0 k1\_numbers (k3\_rfunct\_3 \\ & X0 k1\_numbers))\Rightarrow(r2\_relset\_1 X0 k1\_numbers (k14\_rfunct\_3 X0 ( \\ & k8\_finseq\_1 (k3\_rfunct\_3 X0 k1\_numbers) (k12\_finseq\_1 (k3\_rfunct\_3 \\ & X0 k1\_numbers) X2) X1)) (k5\_rfunct\_3 X0 k1\_numbers X2 (k14\_rfunct\_3 \\ & X0 X1)))))) \end{aligned}$$