

# t1\_rfinseq2

## (TMHTr8jQfqQV9LbPN3xhHmC3ZbxzvXzpinj)

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Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_rfinseq2 : \iota \Rightarrow \iota$  be given. Let  $k3\_rfinseq2 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $v3\_card\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (\forall X1. (v7\_ordinal1 X1) \Rightarrow ((X1 \in k1\_relset\_1 k5\_numbers X0) \Leftrightarrow \\ & ((r1\_xxreal\_0 np\_1 X1) \wedge (r1\_xxreal\_0 X1 (k3\_finseq\_1 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & (m2\_subset\_1 np\_0 k1\_numbers k5\_numbers) \wedge ((m1\_subset\_1 np\_0 \\ & k5\_numbers) \wedge (m1\_subset\_1 np\_0 k1\_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Leftrightarrow(m1\_finseq\_1 X1 X0) \quad (6)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (7)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow (k4\_finseq\_1 X0 = k9\_xtuple\_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow (k3\_finseq\_1 X0 = k1\_card\_1 X0) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\exists X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\wedge((v1\_xboole\_0 X2)\wedge((v1\_relat\_1 X2)\wedge((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)))) \quad (12)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (13)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow((\neg v1\_xboole\_0 (k1\_card\_1 X0))\wedge(v1\_card\_1 (k1\_card\_1 X0))) \quad (14)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow((v1\_xboole\_0 (k1\_card\_1 X0))\wedge(v1\_card\_1 (k1\_card\_1 X0))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_card\_1 X0)\wedge((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v3\_card\_1 X1 X0))))\Rightarrow(v3\_card\_1 (k9\_xtuple\_0 X1) X0) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\Rightarrow(m1\_subset\_1 (k1\_seq\_1 X0 X1) k1\_numbers) \quad (18)$$

Assume the following.

$$\forall X0.(m1\_finseq\_1 X0 k1\_numbers)\Rightarrow(m1\_subset\_1 (k1\_rfinseq2 X0) k5\_numbers) \quad (19)$$

Assume the following.

$$\forall X0.v1\_card\_1 (k1\_card\_1 X0) \quad (20)$$

Assume the following.

$$\forall X0.(m2\_finseq\_1 X0 k1\_numbers)\Rightarrow(k3\_rfinseq2 X0 = k1\_seq\_1 X0 (k1\_rfinseq2 X0)) \quad (21)$$

Assume the following.

$$\begin{aligned} &\forall X0.(m2\_finseq\_1 X0 k1\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 \\ &X1 k5\_numbers)\Rightarrow((X1 = k1\_rfinseq2 X0)\Leftrightarrow(((k3\_finseq\_1 X0 = k6\_numbers)\Rightarrow \\ &(X1 = k6\_numbers))\wedge((\neg r1\_xxreal\_0 (k3\_finseq\_1 X0) k6\_numbers)\Rightarrow \\ &((X1 \in k4\_finseq\_1 X0)\wedge((\forall X2.(m1\_subset\_1 X2 k5\_numbers)\Rightarrow \\ &(\forall X3.(m1\_subset\_1 X3 k1\_numbers)\Rightarrow(\forall X4.(m1\_subset\_1 \\ &X4 k1\_numbers)\Rightarrow(((X2 \in k4\_finseq\_1 X0)\wedge((X3 = k1\_seq\_1 X0 X2)\wedge \\ &X4 = k1\_seq\_1 X0 X1))\Rightarrow(r1\_xxreal\_0 X3 X4))))))\wedge(\forall X2.(m1\_subset\_1 \\ &X2 k5\_numbers)\Rightarrow(((X2 \in k4\_finseq\_1 X0)\wedge(k1\_seq\_1 X0 X2 = k1\_seq\_1 \\ &X0 X1))\Rightarrow(r1\_xxreal\_0 X1 X2)))))))))) \end{aligned} \quad (22)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(v3\_card\_1 X0 k1\_xboole\_0) \quad (23)$$

Assume the following.

$$\forall X0.(v3\_card\_1 X0 k1\_xboole\_0)\Rightarrow(v1\_xboole\_0 X0) \quad (24)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow((v1\_relat\_1 X0)\wedge((v4\_relat\_1 X0 k5\_numbers)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow(v5\_relat\_1 X1 X0) \quad (26)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v5\_relat\_1 X0 k1\_numbers))\Rightarrow((v1\_relat\_1 X0)\wedge(v3\_valued\_0 X0)) \quad (27)$$

Assume the following.

$$\forall X0.(v6\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(v7\_ordinal1 X1)) \quad (28)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(m2\_finseq\_1 X0 k1\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 \\ &X1 k5\_numbers)\Rightarrow(((r1\_xxreal\_0 np\_1 X1)\wedge(r1\_xxreal\_0 X1 (k3\_finseq\_1 \\ &X0)))\Rightarrow((r1\_xxreal\_0 (k1\_seq\_1 X0 X1) (k1\_seq\_1 X0 (k1\_rfinseq2 \\ &X0)))\wedge(r1\_xxreal\_0 (k1\_seq\_1 X0 X1) (k3\_rfinseq2 X0)))))) \end{aligned}$$