

## t78\_rvsum\_1

(TMRMQSNNeaaceJ3ZoaFiieTz5cKGzEGWkgo)

October 27, 2020

Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k16\_rvsum\_1 : \iota \Rightarrow \iota$  be given. Let  $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (k16\_rvsum\_1 (k10\_finseq\_1 X0 X1) = k9\_binop\_2 X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge ((v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow (k16\_rvsum\_1 (k7\_finseq\_1 X1 (k9\_finseq\_1 X0)) = k9\_binop\_2 (k16\_rvsum\_1 X1) X0)) \quad (2)$$

Assume the following.

$$\forall X0.k9\_finseq\_1 X0 = k5\_finseq\_1 X0 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0)))) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge ((v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1)))))) \Rightarrow ((v1\_relat\_1 (k7\_finseq\_1 X0 X1)) \wedge ((v1\_funct\_1 (k7\_finseq\_1 X0 X1)) \wedge ((v3\_valued\_0 (k7\_finseq\_1 X0 X1)) \wedge (v1\_finseq\_1 (k7\_finseq\_1 X0 X1)))))) \quad (4)$$

Assume the following.

$$\forall X0.v1\_finseq\_1 (k5\_finseq\_1 X0) \quad (5)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v3\_valued\_0 (k5\_finseq\_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 (k9\_finseq\_1 X0)) \wedge (v1\_funct\_1 (k9\_finseq\_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k10\_finseq\_1 X0 X1 = k7\_finseq\_1 (k9\_finseq\_1 X0) (k9\_finseq\_1 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k11\_finseq\_1 X0 X1 X2 = k7\_finseq\_1 (k7\_finseq\_1 (k9\_finseq\_1 X0) (k9\_finseq\_1 X1)) (k9\_finseq\_1 X2) \quad (9)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (k16\_rvsum\_1 (k11\_finseq\_1 X0 X1 X2) = k9\_binop\_2 \\ & (k9\_binop\_2 X0 X1) X2))) \end{aligned}$$