

## t36\_rvsum\_1

(TMdm4koZooxAr2erqAKK7SgMTw5PkpEbHGW)

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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  $k6\_rvsum\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k30\_valued\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_valued\_0 \\ X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 \\ X1) \wedge ((v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow (k6\_rvsum\_1 (k8\_rvsum\_1 \\ X0 X1) = k8\_rvsum\_1 X1 X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_valued\_0 \\ X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 \\ X1) \wedge ((v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow (k8\_rvsum\_1 X0 X1 = \\ k4\_rvsum\_1 X0 (k6\_rvsum\_1 X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_valued\_0 \\ X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow (k6\_rvsum\_1 X0 = k30\_valued\_1 X0) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_valued\_0 \\ X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow ((v1\_relat\_1 (k30\_valued\_1 X0)) \wedge (( \\ v1\_funct\_1 (k30\_valued\_1 X0)) \wedge ((v1\_valued\_0 (k30\_valued\_1 X0)) \wedge \\ (v1\_finseq\_1 (k30\_valued\_1 X0)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v3\_valued\_0 X0))) \Rightarrow \\ ((v1\_relat\_1 (k30\_valued\_1 X0)) \wedge ((v1\_funct\_1 (k30\_valued\_1 \\ X0)) \wedge ((v1\_valued\_0 (k30\_valued\_1 X0)) \wedge (v3\_valued\_0 (k30\_valued\_1 \\ X0)))))) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)\wedge(v1\_finseq\_1 X0)))\wedge((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)\wedge(v3\_valued\_0 X1)\wedge(v1\_finseq\_1 X1)))\Rightarrow(k4\_rvsum\_1 X0 X1 = k4\_rvsum\_1 X1 X0) \quad (6)$$

Assume the following.

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

**Theorem 1**

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)\wedge(v3\_valued\_0 X1)\wedge(v1\_finseq\_1 X1)))\Rightarrow(k6\_rvsum\_1 (k8\_rvsum\_1 X0 X1) = k4\_rvsum\_1 (k6\_rvsum\_1 X0 X1))$$