

# t65\_rvsum\_1 (TMaXyjmR- Rggxdc7WKusTENnEYnZhRRXQmtX)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  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  $k10\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k14\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 \\ X1))) \Rightarrow (\forall X2.(v1\_xcmplx\_0 X2) \Rightarrow (k24\_valued\_1 (k18\_valued\_1 \\ X0 X1) X2 = k18\_valued\_1 (k24\_valued\_1 X0 X2) X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (( \\ v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0)))) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 \\ X1) \wedge ((v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1)))))) \Rightarrow (k14\_rvsum\_1 X0 \\ X1 = k18\_valued\_1 X0 X1) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (( \\ v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0)))) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k10\_rvsum\_1 \\ X0 X1 = k24\_valued\_1 X0 X1) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (( \\ v1\_valued\_0 X0) \wedge (v1\_finseq\_1 X0)))) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow ((v1\_relat\_1 \\ (k24\_valued\_1 X0 X1)) \wedge ((v1\_funct\_1 (k24\_valued\_1 X0 X1)) \wedge (v1\_finseq\_1 \\ (k24\_valued\_1 X0 X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\wedge(v1\_xreal\_0 X1))\Rightarrow((v1\_relat\_1 (k24\_valued\_1 X0 X1))\wedge(v1\_funct\_1 (k24\_valued\_1 X0 X1))\wedge(v3\_valued\_0 (k24\_valued\_1 X0 X1))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v1\_valued\_0 X0)\wedge(v1\_finseq\_1 X0))))\wedge((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge((v1\_valued\_0 X1)\wedge(v1\_finseq\_1 X1)))))\Rightarrow((v1\_relat\_1 (k18\_valued\_1 X0 X1))\wedge((v1\_funct\_1 (k18\_valued\_1 X0 X1))\wedge(v1\_finseq\_1 (k18\_valued\_1 X0 X1)))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\wedge((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v3\_valued\_0 X1))))\Rightarrow((v1\_relat\_1 (k18\_valued\_1 X0 X1))\wedge((v1\_funct\_1 (k18\_valued\_1 X0 X1))\wedge(v3\_valued\_0 (k18\_valued\_1 X0 X1)))) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0)\wedge(v3\_valued\_0 X0)\Rightarrow((v1\_relat\_1 X0)\wedge(v1\_valued\_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xcmplx\_0 X0) \quad (9)$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge((v3\_valued\_0 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow(\forall X2.((v1\_relat\_1 X2)\wedge((v1\_funct\_1 X2)\wedge((v3\_valued\_0 X2)\wedge(v1\_finseq\_1 X2))))\Rightarrow(k10\_rvsum\_1 (k14\_rvsum\_1 X1 X2) X0 = k14\_rvsum\_1 (k10\_rvsum\_1 X1 X0) X2)))$$