

t123_rvsum_1

(TMQV24mww7gfj8hHpLL12M5ZYjWzDmkrdCz)

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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 $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k23_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k7_binop_2 : \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 \\ & X0) \wedge (v1_finseq_1 X0)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow ((k3_finseq_1 X0 = \\ & k3_finseq_1 X1) \Rightarrow (k23_rvsum_1 (k6_rvsum_1 X0) X1 = k7_binop_2 (\\ & k23_rvsum_1 X0 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 \\ & X0) \wedge (v1_finseq_1 X0)))) \Rightarrow (k3_finseq_1 (k6_rvsum_1 X0) = k3_finseq_1 \\ & X0) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 \\ & X0) \wedge (v1_finseq_1 X0)))) \Rightarrow (k6_rvsum_1 X0 = k30_valued_1 X0) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 \\ & X0) \wedge (v1_finseq_1 X0)))) \Rightarrow (k6_rvsum_1 (k6_rvsum_1 X0) = X0) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_valued_0 \\ & X0) \wedge (v1_finseq_1 X0)))) \Rightarrow ((v1_relat_1 (k30_valued_1 X0)) \wedge ((\\ & v1_funct_1 (k30_valued_1 X0)) \wedge ((v1_valued_0 (k30_valued_1 X0)) \wedge \\ & (v1_finseq_1 (k30_valued_1 X0)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow \\ ((v1_relat_1 (k30_valued_1 X0)) \wedge ((v1_funct_1 (k30_valued_1 \\ X0)) \wedge ((v1_valued_0 (k30_valued_1 X0)) \wedge (v3_valued_0 (k30_valued_1 \\ X0))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((\\ v3_valued_0 X0) \wedge (v1_finseq_1 X0)))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 \\ X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1))))) \Rightarrow (k23_rvsum_1 X0 \\ X1 = k23_rvsum_1 X1 X0) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((v1_relat_1 \\ X0) \wedge (v1_valued_0 X0)) \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 \\ X0) \wedge (v1_finseq_1 X0)))) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 \\ X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow ((k3_finseq_1 X0 = \\ k3_finseq_1 X1) \Rightarrow (k23_rvsum_1 (k6_rvsum_1 X0) (k6_rvsum_1 X1) = \\ k23_rvsum_1 X0 X1))) \end{aligned}$$