

t17_rvsum_2 (TMTxmiEMySTfTdDguhHYfT- fLtwiaaVsBAJB)

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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 $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k5_rvsum_2 : \iota \Rightarrow \iota$ be given. Let $k7_rvsum_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rvsum_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 \\ & X0) \wedge (v1_valued_0 X0)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_finseq_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow (k5_rvsum_2 (k7_rvsum_2 \\ & X0 X1) = k7_rvsum_2 X1 X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((\\ & v1_finseq_1 X0) \wedge (v1_valued_0 X0)))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_finseq_1 X1) \wedge (v1_valued_0 X1)))))) \Rightarrow (k7_rvsum_2 X0 X1 = \\ & k45_valued_1 X0 X1) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 \\ & X0) \wedge (v1_valued_0 X0)))) \Rightarrow (k5_rvsum_2 X0 = k30_valued_1 X0) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((\\ & v1_finseq_1 X0) \wedge (v1_valued_0 X0)))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_finseq_1 X1) \wedge (v1_valued_0 X1)))))) \Rightarrow (k3_rvsum_2 X0 X1 = \\ & k1_valued_1 X0 X1) \end{aligned} \tag{4}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & X1))) \Rightarrow (k45_valued_1 X0 X1 = k1_valued_1 X0 (k30_valued_1 X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 \\ & X0))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow \\ & (k1_valued_1 X0 X1 = k1_valued_1 X1 X0) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 \\ & X0) \wedge (v1_valued_0 X0)))) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_finseq_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow (k5_rvsum_2 (k7_rvsum_2 \\ & X0 X1) = k3_rvsum_2 (k5_rvsum_2 X0) X1)) \end{aligned}$$