

t15_rvsum_1
(TMZqjRhRN1PfzSfPh1XrHS7fkPhGcb8MQeg)

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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 $k4_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & \quad (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & \quad X1))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_valued_0 \\ & \quad X2)))) \Rightarrow (k1_valued_1 (k1_valued_1 X0 X1) X2 = k1_valued_1 X0 (k1_valued_1 \\ & \quad X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((\\ & \quad v3_valued_0 X0) \wedge (v1_finseq_1 X0)))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 \\ & \quad X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1)))))) \Rightarrow (k4_rvsum_1 X0 X1 = \\ & \quad k1_valued_1 X0 X1) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 \\ & \quad X0))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v3_valued_0 X1)))) \Rightarrow \\ & \quad ((v1_relat_1 (k1_valued_1 X0 X1)) \wedge ((v1_funct_1 (k1_valued_1 \\ & \quad X0 X1)) \wedge (v3_valued_0 (k1_valued_1 X0 X1)))) \end{aligned} \tag{3}$$

Assume the following.

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

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_valued_0 X0)) \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 X0) \wedge (v1_finseq_1 X0)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge ((v3_valued_0 X2) \wedge (v1_finseq_1 X2)))) \Rightarrow \\ & (k4_rvsum_1 X0 (k4_rvsum_1 X1 X2) = k4_rvsum_1 (k4_rvsum_1 X0 X1 X2))) \end{aligned}$$