

t136_rvsum_1

(TMVcaahaqcR7t68FtXPaqnoPxc91xaAdZPZ)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k23_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k4_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 \\
 & X0) \wedge (v1_finseq_1 X0)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 \\
 & X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow (\forall X2.((v1_relat_1 \\
 & X2) \wedge ((v1_funct_1 X2) \wedge ((v3_valued_0 X2) \wedge (v1_finseq_1 X2)))) \Rightarrow \\
 & (\forall X3.((v1_relat_1 X3) \wedge ((v1_funct_1 X3) \wedge ((v3_valued_0 \\
 & X3) \wedge (v1_finseq_1 X3)))) \Rightarrow (((k3_finseq_1 X0 = k3_finseq_1 X1) \wedge \\
 & ((k3_finseq_1 X1 = k3_finseq_1 X2) \wedge (k3_finseq_1 X2 = k3_finseq_1 \\
 & X3))) \Rightarrow (k23_rvsum_1 (k4_rvsum_1 X0 X1) (k4_rvsum_1 X2 X3) = k9_binop_2 \\
 & (k9_binop_2 (k9_binop_2 (k23_rvsum_1 X0 X2) (k23_rvsum_1 X0 X3)) \\
 & (k23_rvsum_1 X1 X2)) (k23_rvsum_1 X1 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_2 X1 X0) \Rightarrow (\forall X2. (m2_finseq_2 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0)\wedge((m1_subset_1\ X1\ (k4_finseq_2\ X0\ k1_numbers))\wedge(m1_subset_1\ X2\ (k4_finseq_2\ X0\ k1_numbers))))\Rightarrow(k5_rvsum_1\ X0\ X1\ X2 = k1_valued_1\ X1\ X2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge((v3_valued_0\ X0)\wedge(v1_finseq_1\ X0))))\wedge((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge((v3_valued_0\ X1)\wedge(v1_finseq_1\ X1)))))\Rightarrow(k4_rvsum_1\ X0\ X1 = k1_valued_1\ X0\ X1) \quad (5)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_finseq_1\ X0)))\Rightarrow(k3_finseq_1\ X0 = k1_card_1\ X0) \quad (6)$$

Assume the following.

$$\neg v1_xboole_0\ k1_numbers \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2\ X1\ X0)\Rightarrow(\forall X2.(m2_finseq_2\ X2\ X0\ X1)\Rightarrow(m2_finseq_1\ X2\ X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1\ X1\ X0)\Rightarrow((v1_funct_1\ X1)\wedge((v1_finseq_1\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ X0)))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1\ X1\ X0)\Rightarrow((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge(v1_finseq_1\ X1))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(v7_ordinal1\ X0)\Rightarrow(m1_finseq_2\ (k4_finseq_2\ X0\ X1)\ X1) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(v3_card_1\ X1\ X0)\Leftrightarrow(k1_card_1\ X1 = X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1\ X1\ X0)\Rightarrow(v5_relat_1\ X1\ X0) \quad (13)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v5_relat_1 X0 k1_numbers)) \Rightarrow ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (\forall X2. (m1_subset_1 X2 (k4_finseq_2 X1 X0)) \Rightarrow (v3_card_1 X2 X1)) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. (m2_finseq_2 X1 k1_numbers \\ & (k4_finseq_2 X0 k1_numbers)) \Rightarrow (\forall X2. (m2_finseq_2 X2 k1_numbers \\ & (k4_finseq_2 X0 k1_numbers)) \Rightarrow (\forall X3. (m2_finseq_2 X3 k1_numbers \\ & (k4_finseq_2 X0 k1_numbers)) \Rightarrow (\forall X4. (m2_finseq_2 X4 k1_numbers \\ & (k4_finseq_2 X0 k1_numbers)) \Rightarrow (k23_rvsum_1 (k5_rvsum_1 X0 X1 X2) \\ & (k5_rvsum_1 X0 X3 X4) = k9_binop_2 (k9_binop_2 (k9_binop_2 (k23_rvsum_1 \\ & X1 X3) (k23_rvsum_1 X1 X4)) (k23_rvsum_1 X2 X3)) (k23_rvsum_1 X2 \\ & X4)))))) \end{aligned}$$