

t39_rvsum_2 (TMZyYk-
BQm3479RpCty4J4xTtiMEUsgzoFYP)

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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 $k17_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k5_rvsum_2 : \iota \Rightarrow \iota$ be given. Let $k1_binop_2 : \iota \Rightarrow \iota$ be given. Let $k16_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_numbers : \iota$ be given. Let $k5_finseqop : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k27_binop_2 : \iota$ be given. Let $k25_binop_2 : \iota$ be given. Let $v1_finseqop : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_setwiseo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_finsop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_finseqop : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Assume the following.

$$r2_funct_2 \ k2_numbers \ k2_numbers \ (k5_finseqop \ k2_numbers \ k27_binop_2) \ k25_binop_2 \tag{1}$$

Assume the following.

$$v1_finseqop \ k27_binop_2 \ k2_numbers \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 \ X0) \Rightarrow (\forall X1. ((v1_funct_1 \ X1) \wedge (v1_funct_2 \ X1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0)))) \Rightarrow (\forall X2. (m2_finseq_1 \ X2 \ X0) \Rightarrow (((v1_binop_1 \ X1 \ X0) \wedge ((v2_binop_1 \ X1 \ X0) \wedge ((v1_setwiseo \ X1 \ X0) \wedge (v1_finseqop \ X1 \ X0)))) \Rightarrow (k3_funct_2 \ X0 \ X0 \ (k5_finseqop \ X0 \ X1) \ (k1_finsop_1 \ X0 \ X2 \ X1) = k1_finsop_1 \ X0 \ (k4_finseqop \ X0 \ X0 \ X2 \ (k5_finseqop \ X0 \ X1)) \ X1)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_finseq_1 X2 \\ & X0) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 X3 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow (k4_finseqop X0 X1 X2 X3 = \\ & k3_relat_1 X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. (m1_finseq_1 X0 k2_numbers) \Rightarrow (k17_rvsum_1 X0 = k16_rvsum_1 X0) \quad (8)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 X0) \wedge (v1_valued_0 X0)))) \Rightarrow (m2_finseq_1 X0 k2_numbers) \quad (9)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (10)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k27_binop_2) \wedge ((v1_funct_2 k27_binop_2 (k2_zfmisc_1 \\ & k2_numbers k2_numbers) k2_numbers) \wedge ((v1_binop_1 k27_binop_2 \\ & k2_numbers) \wedge (v2_binop_1 k27_binop_2 k2_numbers))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k27_binop_2) \wedge ((v1_funct_2 k27_binop_2 (k2_zfmisc_1 \\ & k2_numbers k2_numbers) k2_numbers) \wedge (v1_setwiseo k27_binop_2 \\ & k2_numbers)) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v1_finseq_1 X0)\wedge(v1_valued_0 X0))))\Rightarrow(m2_finseq_1 (k5_rvsum_2 X0) k2_numbers) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))))\Rightarrow((v1_funct_1 (k5_finseqop X0 X1))\wedge((v1_funct_2 (k5_finseqop X0 X1) X0 X0)\wedge(m1_subset_1 (k5_finseqop X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \quad (14)$$

Assume the following.

$$(v1_funct_1 k27_binop_2)\wedge((v1_funct_2 k27_binop_2 (k2_zfmisc_1 k2_numbers k2_numbers) k2_numbers)\wedge(m1_subset_1 k27_binop_2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k2_numbers k2_numbers) k2_numbers)))) \quad (15)$$

Assume the following.

$$(v1_funct_1 k25_binop_2)\wedge((v1_funct_2 k25_binop_2 k2_numbers k2_numbers)\wedge(m1_subset_1 k25_binop_2 (k1_zfmisc_1 (k2_zfmisc_1 k2_numbers k2_numbers)))) \quad (16)$$

Assume the following.

$$\forall X0.(m1_finseq_1 X0 k2_numbers)\Rightarrow(m1_subset_1 (k17_rvsum_1 X0) k2_numbers) \quad (17)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v1_valued_0 X0)\wedge(v1_finseq_1 X0))))\Rightarrow(v1_xcmplx_0 (k16_rvsum_1 X0)) \quad (18)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v1_finseq_1 X0)\wedge(v1_valued_0 X0))))\Rightarrow(k5_rvsum_2 X0 = k3_relat_1 X0 k25_binop_2) \quad (19)$$

Assume the following.

$$\forall X0.((v1_funct_1 X0)\wedge((v1_funct_2 X0 k2_numbers k2_numbers)\wedge(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k2_numbers k2_numbers)))))\Rightarrow((X0 = k25_binop_2)\Leftrightarrow(\forall X1.(v1_xcmplx_0 X1)\Rightarrow(k1_funct_1 X0 X1 = k1_binop_2 X1))) \quad (20)$$

Assume the following.

$$\forall X0.(m2_finseq_1 X0 k2_numbers)\Rightarrow(k17_rvsum_1 X0 = k1_finsop_1 k2_numbers X0 k27_binop_2) \quad (21)$$

Theorem 1

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0) \wedge (v1_finseq_1 X0) \wedge (v1_valued_0 X0)) \Rightarrow (k17_rsum_1 (k5_rsum_2 X0) = k1_binop_2 (k16_rsum_1 X0))$$