

t32_rvsum_2 (TMXJwB-
DpS9SdkwGrNK7x9NjAqerTzFdB2mm)

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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 $k16_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v2_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_setwiseo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_finsop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_numbers : \iota$ be given. Let $k17_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k27_binop_2 : \iota$ be given. Let $v1_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m2_finseq_1 X1 X0) \Rightarrow \\ & \quad (\forall X2. (m2_finseq_1 X2 X0) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge \\ & \quad ((v1_funct_2 X3 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & \quad (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow ((v2_binop_1 X3 X0) \Rightarrow \\ & \quad (((\neg v1_setwiseo X3 X0) \wedge (\neg (r1_xxreal_0 np_1 (k3_finseq_1 X1))) \wedge \\ & \quad (r1_xxreal_0 np_1 (k3_finseq_1 X2)))) \vee (k1_finsop_1 X0 (k8_finseq_1 \\ & \quad X0 X1 X2) X3 = k5_binop_1 X0 X3 (k1_finsop_1 X0 X1 X3) (k1_finsop_1 \\ & \quad X0 X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_finseq_1 X1 X0) \wedge (m1_finseq_1 X2 X0)) \Rightarrow (k8_finseq_1 X0 X1 X2 = k7_finseq_1 X1 X2) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X1)\wedge \\ & ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((m1_subset_1 X2 X0)\wedge \\ & (m1_subset_1 X3 X0)))\Rightarrow(k5_binop_1 X0 X1 X2 X3 = k1_binop_1 X1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(m1_finseq_1 X0 k2_numbers)\Rightarrow(k17_rvsum_1 X0 = k16_rvsum_1 X0) \quad (5)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v1_finseq_1 X0)\wedge(v1_valued_0 X0))))\Rightarrow(m2_finseq_1 X0 k2_numbers) \quad (6)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (7)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k27_binop_2)\wedge((v1_funct_2 k27_binop_2 (k2_zfmisc_1 \\ & k2_numbers k2_numbers) k2_numbers)\wedge((v1_binop_1 k27_binop_2 \\ & k2_numbers)\wedge(v2_binop_1 k27_binop_2 k2_numbers))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((\\ & v1_valued_0 X0)\wedge(v1_finseq_1 X0))))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 \\ & X1)\wedge((v1_valued_0 X1)\wedge(v1_finseq_1 X1))))\Rightarrow((v1_relat_1 (k7_finseq_1 \\ & X0 X1))\wedge((v1_funct_1 (k7_finseq_1 X0 X1))\wedge((v1_valued_0 (k7_finseq_1 \\ & X0 X1))\wedge(v1_finseq_1 (k7_finseq_1 X0 X1)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k27_binop_2)\wedge((v1_funct_2 k27_binop_2 (k2_zfmisc_1 \\ & k2_numbers k2_numbers) k2_numbers)\wedge(v1_setwiseo k27_binop_2 \\ & k2_numbers)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 \\ & X0)))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1))))\Rightarrow \\ & ((v1_relat_1 (k7_finseq_1 X0 X1))\wedge((v1_funct_1 (k7_finseq_1 \\ & X0 X1))\wedge(v1_finseq_1 (k7_finseq_1 X0 X1)))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k27_binop_2)\wedge((v1_funct_2 k27_binop_2 (k2_zfmisc_1 \\ & k2_numbers k2_numbers) k2_numbers)\wedge(m1_subset_1 k27_binop_2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k2_numbers) k2_numbers) \\ & k2_numbers))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(m1_finseq_1 X0 k2_numbers) \Rightarrow (m1_subset_1 (k17_rvsum_1 X0) k2_numbers) \quad (13)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_valued_0 X0) \wedge (v1_finseq_1 X0)))) \Rightarrow (v1_xcmplx_0 (k16_rvsum_1 X0)) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 (k2_zfmisc_1 k2_numbers \\ k2_numbers) k2_numbers) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ (k2_zfmisc_1 k2_numbers k2_numbers) k2_numbers)))))) \Rightarrow ((X0 = k27_binop_2) \Leftrightarrow \\ (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (\forall X2.(v1_xcmplx_0 X2) \Rightarrow (\\ k1_binop_1 X0 X1 X2 = k3_binop_2 X1 X2)))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(m2_finseq_1 X0 k2_numbers) \Rightarrow (k17_rvsum_1 X0 = k1_finsop_1 k2_numbers X0 k27_binop_2) \quad (16)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 \\ X0) \wedge (v1_valued_0 X0)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 \\ X1) \wedge ((v1_finseq_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow (k16_rvsum_1 (k7_finseq_1 \\ X0 X1) = k3_binop_2 (k16_rvsum_1 X0) (k16_rvsum_1 X1))) \end{aligned}$$