

l82_descip_1 (TM- PRZna2sXkfbCgFg2WTyufdN5ocHRqwrHA)

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Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_16 : \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v1_descip_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $np_3 : \iota$ be given. Let $np_4 : \iota$ be given. Let $np_5 : \iota$ be given. Let $np_6 : \iota$ be given. Let $np_7 : \iota$ be given. Let $np_8 : \iota$ be given. Let $np_9 : \iota$ be given. Let $np_10 : \iota$ be given. Let $np_11 : \iota$ be given. Let $np_12 : \iota$ be given. Let $np_13 : \iota$ be given. Let $np_14 : \iota$ be given. Let $np_15 : \iota$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $np_0 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v7_ordinal1 X0) \wedge (\neg v1_xboole_0 X0)) \Rightarrow (\forall X1. \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 X0 (k2_finseq_1 X0)) \wedge ((v1_descip_1 \\ & X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 (k2_finseq_1 \\ & X0)))))) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow ((\neg r1_xxreal_0 X0 X2) \Rightarrow \\ & ((k1_funct_1 X1 X2 = k1_nat_1 X2 np_1) \wedge (X2 \in k1_relset_1 X0 X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ & (k3_relat_1 X1 X2) X0 = k1_funct_1 X2 (k1_funct_1 X1 X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_9) \wedge (m2_subset_1 np_9 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_9 k5_numbers) \wedge (m1_subset_1 np_9 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_8) \wedge (m2_subset_1 np_8 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_8 k5_numbers) \wedge (m1_subset_1 np_8 k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_7) \wedge (m2_subset_1 np_7 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_7 k5_numbers) \wedge (m1_subset_1 np_7 k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_6) \wedge (m2_subset_1 np_6 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_6 k5_numbers) \wedge (m1_subset_1 np_6 k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_5) \wedge (m2_subset_1 np_5 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_5 k5_numbers) \wedge (m1_subset_1 np_5 k1_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_4) \wedge (m2_subset_1 np_4 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_4 k5_numbers) \wedge (m1_subset_1 np_4 k1_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_3) \wedge (m2_subset_1 np_3 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_3 k5_numbers) \wedge (m1_subset_1 np_3 k1_numbers)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_16) \wedge (m2_subset_1 \ np_16 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_16 \ k5_numbers) \wedge (m1_subset_1 \ np_16 \ k1_numbers)) \end{aligned} \quad (13)$$

Assume the following.

$$\neg v1_xboole_0 \ np_16 \quad (14)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_15) \wedge (m2_subset_1 \ np_15 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_15 \ k5_numbers) \wedge (m1_subset_1 \ np_15 \ k1_numbers)) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_14) \wedge (m2_subset_1 \ np_14 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_14 \ k5_numbers) \wedge (m1_subset_1 \ np_14 \ k1_numbers)) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_13) \wedge (m2_subset_1 \ np_13 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_13 \ k5_numbers) \wedge (m1_subset_1 \ np_13 \ k1_numbers)) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_12) \wedge (m2_subset_1 \ np_12 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_12 \ k5_numbers) \wedge (m1_subset_1 \ np_12 \ k1_numbers)) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_11) \wedge (m2_subset_1 \ np_11 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_11 \ k5_numbers) \wedge (m1_subset_1 \ np_11 \ k1_numbers)) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_10) \wedge (m2_subset_1 \ np_10 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_10 \ k5_numbers) \wedge (m1_subset_1 \ np_10 \ k1_numbers)) \end{aligned} \quad (20)$$

Assume the following.

$$(m2_subset_1 \ np_0 \ k1_numbers \ k5_numbers) \wedge ((m1_subset_1 \ np_0 \ k5_numbers) \wedge (m1_subset_1 \ np_0 \ k1_numbers)) \quad (21)$$

Assume the following.

$$v1_xboole_0 \ np_0 \quad (22)$$

Assume the following.

$$k2_xcmplx_0 \ np_1 \ np_9 = np_10 \quad (23)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_8 = np_9 \quad (24)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_7 = np_8 \quad (25)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_6 = np_7 \quad (26)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_5 = np_6 \quad (27)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_4 = np_5 \quad (28)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_3 = np_4 \quad (29)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_2 = np_3 \quad (30)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_1 = np_2 \quad (31)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_15 = np_16 \quad (32)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_14 = np_15 \quad (33)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_13 = np_14 \quad (34)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_12 = np_13 \quad (35)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_11 = np_12 \quad (36)$$

Assume the following.

$$k2_xcmplx_0 \ np_1 \ np_10 = np_11 \quad (37)$$

Assume the following.

$$k2_xcmplx_0 \ np_1 \ np_0 = np_1 \quad (38)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_9 \quad (39)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_8 \quad (40)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_7 \quad (41)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_6 \quad (42)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_5 \quad (43)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_4 \quad (44)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_3 \quad (45)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_2 \quad (46)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_15 \quad (47)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_14 \quad (48)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_13 \quad (49)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_12 \quad (50)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_11 \quad (51)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_10 \quad (52)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_1 \quad (53)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_16 \ np_0 \quad (54)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (55)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (56)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 \ X1)\wedge(v4_relat_1 \ X1 \ X0))\Rightarrow(\quad (57)$$

$$k1_relset_1 \ X0 \ X1 = k9_xtuple_0 \ X1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \quad (58)$$

$$(((v1_funct_1 \ X4)\wedge(m1_subset_1 \ X4 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))))\wedge((v1_funct_1 \ X5)\wedge(m1_subset_1 \ X5 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X2 \ X3))))))\Rightarrow(k1_partfun1 \ X0 \ X1 \ X2 \ X3 \ X4 \ X5 = k3_relat_1 \ X4 \ X5)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 \ X0)\wedge(m1_subset_1 \ X1 \ k5_numbers))\Rightarrow \quad (59)$$

$$(k1_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 \ (k2_zfmisc_1 \ X0 \ X1) \quad (60)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 \ X1 \ X0)\Rightarrow(\forall X2.(m2_finseq_2 \ X2 \ X0 \ X1)\Rightarrow(m2_finseq_1 \ X2 \ X0)) \quad (61)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (62)$$

Assume the following.

$$\forall X0.\forall X1.(v7_ordinal1 X0)\Rightarrow(m1_finseq_2 (k4_finseq_2 X0 X1) X1) \quad (63)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow(k1_nat_1 X0 X1 = k1_nat_1 X1 X0) \quad (64)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (65)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (66)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_relat_1 X1)) \quad (67)$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 \text{ np_16 } (k2_finseq_1 \\
& \text{ np_16})) \wedge ((v1_descip_1 X0 \text{ np_16}) \wedge (m1_subset_1 X0 (k1_zfmisc_1 \\
& (k2_zfmisc_1 \text{ np_16 } (k2_finseq_1 \text{ np_16})))))) \Rightarrow (\forall X1. \\
& (\neg v1_xboole_0 X1) \Rightarrow (\forall X2.(m1_subset_1 X2 X1) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 X1) \Rightarrow (\forall X4.(m1_subset_1 X4 X1) \Rightarrow (\forall X5. \\
& (m1_subset_1 X5 X1) \Rightarrow (\forall X6.(m1_subset_1 X6 X1) \Rightarrow (\forall X7. \\
& (m1_subset_1 X7 X1) \Rightarrow (\forall X8.(m1_subset_1 X8 X1) \Rightarrow (\forall X9. \\
& (m1_subset_1 X9 X1) \Rightarrow (\forall X10.(m1_subset_1 X10 X1) \Rightarrow (\forall X11. \\
& (m1_subset_1 X11 X1) \Rightarrow (\forall X12.(m1_subset_1 X12 X1) \Rightarrow (\forall X13. \\
& (m1_subset_1 X13 X1) \Rightarrow (\forall X14.(m1_subset_1 X14 X1) \Rightarrow (\forall X15. \\
& (m1_subset_1 X15 X1) \Rightarrow (\forall X16.(m1_subset_1 X16 X1) \Rightarrow (\forall X17. \\
& (m1_subset_1 X17 X1) \Rightarrow (\forall X18.(m2_finseq_2 X18 X1 (k4_finseq_2 \\
& \text{ np_16 } X1)) \Rightarrow (((k1_funct_1 X18 \text{ np_1} = X2) \wedge ((k1_funct_1 X18 \text{ np_2} = \\
& X3) \wedge ((k1_funct_1 X18 \text{ np_3} = X4) \wedge ((k1_funct_1 X18 \text{ np_4} = X5) \wedge \\
& (k1_funct_1 X18 \text{ np_5} = X6) \wedge ((k1_funct_1 X18 \text{ np_6} = X7) \wedge ((k1_funct_1 \\
& X18 \text{ np_7} = X8) \wedge ((k1_funct_1 X18 \text{ np_8} = X9) \wedge ((k1_funct_1 X18 \text{ np_9} = \\
& X10) \wedge ((k1_funct_1 X18 \text{ np_10} = X11) \wedge ((k1_funct_1 X18 \text{ np_11} = X12) \wedge \\
& ((k1_funct_1 X18 \text{ np_12} = X13) \wedge ((k1_funct_1 X18 \text{ np_13} = X14) \wedge \\
& (k1_funct_1 X18 \text{ np_14} = X15) \wedge ((k1_funct_1 X18 \text{ np_15} = X16) \wedge (k1_funct_1 \\
& X18 \text{ np_16} = X17)))))))))) \Rightarrow ((k1_funct_1 (k1_partfun1 \text{ np_16} \\
& (k2_finseq_1 \text{ np_16}) k5_numbers X1 X0 X18) k6_numbers = X2) \wedge ((k1_funct_1 \\
& (k1_partfun1 \text{ np_16} (k2_finseq_1 \text{ np_16}) k5_numbers X1 X0 X18) \\
& \text{ np_1} = X3) \wedge ((k1_funct_1 (k1_partfun1 \text{ np_16} (k2_finseq_1 \text{ np_16}) \\
& k5_numbers X1 X0 X18) \text{ np_2} = X4) \wedge ((k1_funct_1 (k1_partfun1 \text{ np_16} \\
& (k2_finseq_1 \text{ np_16}) k5_numbers X1 X0 X18) \text{ np_3} = X5) \wedge ((k1_funct_1 \\
& (k1_partfun1 \text{ np_16} (k2_finseq_1 \text{ np_16}) k5_numbers X1 X0 X18) \\
& \text{ np_4} = X6) \wedge ((k1_funct_1 (k1_partfun1 \text{ np_16} (k2_finseq_1 \text{ np_16}) \\
& k5_numbers X1 X0 X18) \text{ np_5} = X7) \wedge ((k1_funct_1 (k1_partfun1 \text{ np_16} \\
& (k2_finseq_1 \text{ np_16}) k5_numbers X1 X0 X18) \text{ np_6} = X8) \wedge ((k1_funct_1 \\
& (k1_partfun1 \text{ np_16} (k2_finseq_1 \text{ np_16}) k5_numbers X1 X0 X18) \\
& \text{ np_7} = X9) \wedge ((k1_funct_1 (k1_partfun1 \text{ np_16} (k2_finseq_1 \text{ np_16}) \\
& k5_numbers X1 X0 X18) \text{ np_8} = X10) \wedge ((k1_funct_1 (k1_partfun1 \text{ np_16} \\
& (k2_finseq_1 \text{ np_16}) k5_numbers X1 X0 X18) \text{ np_9} = X11) \wedge ((k1_funct_1 \\
& (k1_partfun1 \text{ np_16} (k2_finseq_1 \text{ np_16}) k5_numbers X1 X0 X18) \\
& \text{ np_10} = X12) \wedge ((k1_funct_1 (k1_partfun1 \text{ np_16} (k2_finseq_1 \text{ np_16}) \\
& k5_numbers X1 X0 X18) \text{ np_11} = X13) \wedge ((k1_funct_1 (k1_partfun1 \text{ np_16} \\
& (k2_finseq_1 \text{ np_16}) k5_numbers X1 X0 X18) \text{ np_12} = X14) \wedge ((k1_funct_1 \\
& (k1_partfun1 \text{ np_16} (k2_finseq_1 \text{ np_16}) k5_numbers X1 X0 X18) \\
& \text{ np_13} = X15) \wedge ((k1_funct_1 (k1_partfun1 \text{ np_16} (k2_finseq_1 \text{ np_16}) \\
& k5_numbers X1 X0 X18) \text{ np_14} = X16) \wedge (k1_funct_1 (k1_partfun1 \text{ np_16} \\
& (k2_finseq_1 \text{ np_16}) k5_numbers X1 X0 X18) \text{ np_15} = X17))))))))))
\end{aligned}$$