

t33_setwop_2

(TMbqibrAgyMSWo9td6XddvkjZoF2UZvRVDN)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ 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 $v1_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_setwiseo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_finsop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_finseqop : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow \\
& (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 \\
& X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0) X0)))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (\\
& k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 X0 X0) X0)))) \Rightarrow (\forall X4. (m2_finseq_1 X4 X0) \Rightarrow (\\
& \forall X5. (m2_finseq_1 X5 X0) \Rightarrow (((v1_binop_1 X2 X0) \wedge ((v2_binop_1 \\
& X2 X0) \wedge ((v1_setwiseo X2 X0) \wedge ((X1 = k4_binop_1 X0 X2) \wedge ((k5_binop_1 \\
& X0 X3 X1 X1 = X1) \wedge ((\forall X6. (m1_subset_1 X6 X0) \Rightarrow (\forall X7. (\\
& m1_subset_1 X7 X0) \Rightarrow (\forall X8. (m1_subset_1 X8 X0) \Rightarrow (\forall X9. \\
& (m1_subset_1 X9 X0) \Rightarrow (k5_binop_1 X0 X2 (k5_binop_1 X0 X3 X6 X7) (k5_binop_1 \\
& X0 X3 X8 X9) = k5_binop_1 X0 X3 (k5_binop_1 X0 X2 X6 X8) (k5_binop_1 \\
& X0 X2 X7 X9)))))) \wedge (k3_finseq_1 X4 = k3_finseq_1 X5)))))) \Rightarrow (k5_binop_1 \\
& X0 X3 (k1_finsop_1 X0 X4 X2) (k1_finsop_1 X0 X5 X2) = k1_finsop_1 X0 \\
& (k1_finseqop X0 X0 X0 X3 X4 X5) X2))))))
\end{aligned} \tag{1}$$

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.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (3)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0)\Rightarrow(\forall X2.(m2_finseq_2 X2 X0 X1)\Rightarrow(m2_finseq_1 X2 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(v7_ordinal1 X0)\Rightarrow(m1_finseq_2 (k4_finseq_2 X0 X1) X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(v3_card_1 X1 X0)\Leftrightarrow(k1_card_1 X1 = X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(v7_ordinal1 X1))\Rightarrow (\forall X2.(m1_subset_1 X2 (k4_finseq_2 X1 X0))\Rightarrow(v3_card_1 X2 X1)) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow \\ & (\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 X0 \\ & X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0) X0))))\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge((v1_funct_2 X3 (\\ & k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0) X0))))\Rightarrow(\forall X4.(v7_ordinal1 X4)\Rightarrow(\forall X5. \\ & (m2_finseq_2 X5 X0 (k4_finseq_2 X4 X0))\Rightarrow(\forall X6.(m2_finseq_2 \\ & X6 X0 (k4_finseq_2 X4 X0))\Rightarrow(((v1_binop_1 X2 X0)\wedge((v2_binop_1 X2 \\ & X0)\wedge((v1_setwise0 X2 X0)\wedge((X1 = k4_binop_1 X0 X2)\wedge((k5_binop_1 \\ & X0 X3 X1 X1 = X1)\wedge(\forall X7.(m1_subset_1 X7 X0)\Rightarrow(\forall X8.(m1_subset_1 \\ & X8 X0)\Rightarrow(\forall X9.(m1_subset_1 X9 X0)\Rightarrow(\forall X10.(m1_subset_1 \\ & X10 X0)\Rightarrow(k5_binop_1 X0 X2 (k5_binop_1 X0 X3 X7 X8) (k5_binop_1 X0 \\ & X3 X9 X10) = k5_binop_1 X0 X3 (k5_binop_1 X0 X2 X7 X9) (k5_binop_1 X0 \\ & X2 X8 X10))))))))))\Rightarrow(k5_binop_1 X0 X3 (k1_finsop_1 X0 X5 X2) (k1_finsop_1 \\ & X0 X6 X2) = k1_finsop_1 X0 (k1_finseqop X0 X0 X0 X3 X5 X6) X2)))))) \end{aligned}$$