

t40_setwop_2

(TMYMqLqnf5LWsv4MD8JruQX7r2etPYJoawt)

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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 $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_finseqop : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r6_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k3_finseqop : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow \\
 & (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 \\
 & X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
 & X0 X0) X0)))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (\\
 & k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (k2_zfmisc_1 X0 X0) X0)))) \Rightarrow (((v2_binop_1 X2 X0) \wedge ((v1_setwiseo \\
 & X2 X0) \wedge ((v1_finseqop X2 X0) \wedge ((r6_binop_1 X0 X3 X2) \wedge (X1 = k4_binop_1 \\
 & X0 X2)))) \Rightarrow (\forall X4. (m1_subset_1 X4 X0) \Rightarrow ((k5_binop_1 X0 X3 \\
 & X1 X4 = X1) \wedge (k5_binop_1 X0 X3 X4 X1 = X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow \\
 & (\forall X2. (m1_subset_1 X2 X0) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge \\
 & ((v1_funct_2 X3 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))) \Rightarrow (\forall X4. ((v1_funct_1 \\
 & X4) \wedge ((v1_funct_2 X4 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))) \Rightarrow (\forall X5. (m2_finseq_1 \\
 & X5 X0) \Rightarrow (((v1_binop_1 X3 X0) \wedge ((v2_binop_1 X3 X0) \wedge ((v1_setwiseo \\
 & X3 X0) \wedge ((X1 = k4_binop_1 X0 X3) \wedge ((r6_binop_1 X0 X4 X3) \wedge (k5_binop_1 \\
 & X0 X4 X2 X1 = X1)))) \Rightarrow (k5_binop_1 X0 X4 X2 (k1_finsop_1 X0 X5 X3) = \\
 & k1_finsop_1 X0 (k3_finseqop X0 X0 X0 X4 X2 X5) X3))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))))\Rightarrow(m1_subset_1 (k4_binop_1 X0 X1) X0) \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow \\ & (\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))))\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge((v1_funct_2 X3 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))))\Rightarrow(\forall X4.(m2_finseq_1 X4 X0)\Rightarrow(\\ & ((v1_binop_1 X2 X0)\wedge((v2_binop_1 X2 X0)\wedge((v1_setwiseo X2 X0)\wedge((v1_finseqop X2 X0)\wedge(r6_binop_1 X0 X3 X2))))))\Rightarrow(k5_binop_1 X0 X3 X1 (k1_finsop_1 X0 X4 X2) = k1_finsop_1 X0 (k3_finseqop X0 X0 X0 X3 X1 X4) X2)))))) \end{aligned}$$