

t14_setwop_2 (TMRgvpF- fEa4dkoyZRTmmh9bB6wjTn8zwUyV)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_finsub_1 : \iota \Rightarrow \iota$ 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 $v1_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k7_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (\neg v1_xboole_0 X1) \Rightarrow \\
& (\forall X2. (m1_subset_1 X2 (k5_finsub_1 X0)) \Rightarrow (\forall X3. (m1_subset_1 \\
& X3 X1) \Rightarrow (\forall X4. (m1_subset_1 X4 X1) \Rightarrow (\forall X5. ((v1_funct_1 \\
& X5) \wedge ((v1_funct_2 X5 (k2_zfmisc_1 X1 X1) X1) \wedge (m1_subset_1 X5 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 X1 X1) X1)))))) \Rightarrow (\forall X6. ((v1_funct_1 \\
& X6) \wedge ((v1_funct_2 X6 (k2_zfmisc_1 X1 X1) X1) \wedge (m1_subset_1 X6 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 X1 X1) X1)))))) \Rightarrow (\forall X7. ((v1_funct_1 \\
& X7) \wedge ((v1_funct_2 X7 X0 X1) \wedge (m1_subset_1 X7 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X1)))))) \Rightarrow (((v1_binop_1 X5 X1) \wedge ((v2_binop_1 X5 X1) \wedge ((v1_setwiseo \\
& X5 X1) \wedge ((X3 = k4_binop_1 X1 X5) \wedge ((r6_binop_1 X1 X6 X5) \wedge (k5_binop_1 \\
& X1 X6 X4 X3 = X3)))))) \Rightarrow (k5_binop_1 X1 X6 X4 (k7_setwiseo X0 X1 X5 X2 \\
& X7) = k7_setwiseo X0 X1 X5 X2 (k10_funcop_1 X1 X0 X6 X4 X7))))))
\end{aligned} \tag{2}$$

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

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(\neg v1_xboole_0 X1)\Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (k5_finsub_1 X0))\Rightarrow(\forall X3.(m1_subset_1 \\ & X3 X1)\Rightarrow(\forall X4.((v1_funct_1 X4)\wedge((v1_funct_2 X4 (k2_zfmisc_1 \\ & X1 X1) X1)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X1 X1) X1))))))\Rightarrow(\forall X5.((v1_funct_1 X5)\wedge((v1_funct_2 X5 (\\ & k2_zfmisc_1 X1 X1) X1)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X1 X1) X1))))))\Rightarrow(\forall X6.((v1_funct_1 X6)\wedge((v1_funct_2 \\ & X6 X0 X1)\wedge(m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow \\ & (((v1_binop_1 X4 X1)\wedge((v2_binop_1 X4 X1)\wedge((v1_setwiseo X4 X1)\wedge \\ & ((v1_finseqop X4 X1)\wedge(r6_binop_1 X1 X5 X4))))))\Rightarrow(k5_binop_1 X1 \\ & X5 X3 (k7_setwiseo X0 X1 X4 X2 X6) = k7_setwiseo X0 X1 X4 X2 (k10_funcop_1 \\ & X1 X0 X5 X3 X6)))))) \end{aligned}$$