t11_setwop_2 (TMV3EaDDdeepYMYzWrjFuESqpcdiQM5egFF)

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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 $k5\_finsub\_1 : \iota \Rightarrow \iota$ 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 $r8\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_finseqop : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_partfun1 : \iota \Rightarrow \iota$ be given. Let $k5\_finseqop : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_relat\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k5\_finsub\_1\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ X1) \Rightarrow (\forall X4.((v1\_funct\_1\ X4) \wedge ((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ X1\ X1)\ X1) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1))))) \Rightarrow (\forall X5.((v1\_funct\_1\ X5) \wedge ((v1\_funct\_2\ X5\ (k2\_zfmisc\_1\ X1\ X1)\ X1) \wedge (m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1))))) \Rightarrow (\forall X6.((v1\_funct\_1\ X6) \wedge ((v1\_funct\_2\ X6\ X0\ X1) \wedge (m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \Rightarrow (\forall X7.((v1\_funct\_1\ X7) \wedge ((v1\_funct\_2\ X7\ X0\ X1) \wedge (m1\_subset\_1\ X7\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \Rightarrow (((v1\_binop\_1\ X4\ X1) \wedge ((v2\_binop\_1\ X4\ X1) \wedge ((v1\_setwiseo\ X4\ X1) \wedge ((X3 = k4\_binop\_1\ X1\ X4) \wedge ((k5\_binop\_1\ X1\ X5\ X3\ X3 = X3) \wedge (\forall X8.(m1\_subset\_1\ X8\ X1) \Rightarrow (\forall X9.(m1\_subset\_1\ X9\ X1) \Rightarrow (\forall X10.(m1\_subset\_1\ X10\ X1) \Rightarrow (\forall X11.(m1\_subset\_1\ X11\ X1) \Rightarrow (k5\_binop\_1\ X1\ X4\ (k5\_binop\_1\ X1\ X5\ X8\ X9)\ (k5\_binop\_1\ X1\ X5\ X10\ X11) = k5\_binop\_1\ X1\ X5\ (k5\_binop\_1\ X1\ X4\ X8\ X10)\ (k5\_binop\_1\ X1\ X4\ X9\ X11)))))))))))) \Rightarrow (k5\_binop\_1\ X1\ X5\ (k7\_setwiseo\ X0\ X1\ X4\ X2\ X6)\ (k7\_setwiseo\ X0\ X1\ X4\ X2\ X7) = k7\_setwiseo\ X0\ X1\ X4\ X2\ (k6\_funcop\_1\ X1\ X0\ X5\ X6\ X7))))))))) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge(
(v1_funct_2\ X1\ (k2_zfmisc_1\ X0\ X0)\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1
(k2_zfmisc_1\ (k2_zfmisc_1\ X0\ X0)\ X0)))))\Rightarrow(\forall X2.((v1_funct_1
X2)\wedge((v1_funct_2\ X2\ (k2_zfmisc_1\ X0\ X0)\ X0)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1
(k2_zfmisc_1\ (k2_zfmisc_1\ X0\ X0)\ X0)))))\Rightarrow(((v1_binop_1\ X1\ X0)\wedge
((v2_binop_1\ X1\ X0)\wedge((v1_setwiseo\ X1\ X0)\wedge((v1_finseqop\ X1\ X0)\wedge
(r8_binop_1\ X0\ X0\ X0\ X2\ (k7_finseqop\ X0\ X1\ (k6_partfun1\ X0)\ (k5_finseqop
X0\ X1)))))))\Rightarrow(\forall X3.(m1_subset_1\ X3\ X0)\Rightarrow(\forall X4.(m1_subset_1
X4\ X0)\Rightarrow(\forall X5.(m1_subset_1\ X5\ X0)\Rightarrow(\forall X6.(m1_subset_1
X6\ X0)\Rightarrow(k5_binop_1\ X0\ X1\ (k5_binop_1\ X0\ X2\ X3\ X4)\ (k5_binop_1\ X0\ X2
X5\ X6) = k5_binop_1\ X0\ X2\ (k5_binop_1\ X0\ X1\ X3\ X5)\ (k5_binop_1\ X0\ X1
X4\ X6)))))))))
\tag{2}$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow
(\forall X2.((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ (k2_zfmisc_1\ X0
X0)\ X0)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_zfmisc_1
X0\ X0)\ X0)))))\Rightarrow(((v2_binop_1\ X2\ X0)\wedge((v1_setwiseo\ X2\ X0)\wedge(v1_finseqop
X2\ X0)))\Rightarrow(k5_binop_1\ X0\ (k7_finseqop\ X0\ X2\ (k6_partfun1\ X0)\ (k5_finseqop
X0\ X2))\ X1\ X1 = k4_binop_1\ X0\ X2))))
\tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((v1_funct_1
X3)\wedge((v1_funct_2\ X3\ (k2_zfmisc_1\ X0\ X1)\ X2)\wedge(m1_subset_1\ X3\ (k1_zfmisc_1
(k2_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)\ X2)))))\wedge((v1_funct_1\ X4)\wedge((
v1_funct_2\ X4\ (k2_zfmisc_1\ X0\ X1)\ X2)\wedge(m1_subset_1\ X4\ (k1_zfmisc_1
(k2_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)\ X2)))))\Rightarrow((r8_binop_1\ X0\ X1\ X2
X3\ X4)\Leftrightarrow(X3 = X4))
\tag{4}$$

Assume the following.

$$\forall X0.k6\_partfun1\ X0 = k4\_relat\_1\ X0 \tag{5}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ (k4\_relat\_1\ X0))\wedge(v1\_funct\_1\ (k4\_relat\_1\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge (((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))))\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ X0\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))))))\Rightarrow((v1\_funct\_1\ (k7\_finseqop\ X0\ X1\ X2\ X3))\wedge((v1\_funct\_2\ (k7\_finseqop\ X0\ X1\ X2\ X3)\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ (k7\_finseqop\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))$$ (7)

Assume the following.

$$\forall X0.(v1\_partfun1\ (k6\_partfun1\ X0)\ X0)\wedge(m1\_subset\_1\ (k6\_partfun1\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))$$ (8)

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))))\Rightarrow((v1\_funct\_1\ (k5\_finseqop\ X0\ X1))\wedge((v1\_funct\_2\ (k5\_finseqop\ X0\ X1)\ X0\ X0)\wedge(m1\_subset\_1\ (k5\_finseqop\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))))$$ (9)

Assume the following.

$$\forall X0.\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\Rightarrow(m1\_subset\_1\ (k4\_binop\_1\ X0\ X1)\ X0)$$ (10)

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v1\_partfun1\ X2\ X0)\Rightarrow(v1\_funct\_2\ X2\ X0\ X1))$$ (11)

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k5\_finsub\_1\ X0))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X1\ X1)\ X1)\wedge(m1\_subset\_1 X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1)))))\Rightarrow(\forall X4. ((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ X1\ X1)\ X1)\wedge(m1\_subset\_1 X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1)))))\Rightarrow(\forall X5. ((v1\_funct\_1\ X5)\wedge((v1\_funct\_2\ X5\ X0\ X1)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1 (k2\_zfmisc\_1\ X0\ X1)))))\Rightarrow(\forall X6.((v1\_funct\_1\ X6)\wedge((v1\_funct\_2 X6\ X0\ X1)\wedge(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\Rightarrow (((v1\_binop\_1\ X3\ X1)\wedge((v2\_binop\_1\ X3\ X1)\wedge((v1\_setwiseo\ X3\ X1)\wedge ((v1\_finseqop\ X3\ X1)\wedge(r8\_binop\_1\ X1\ X1\ X1\ X4\ (k7\_finseqop\ X1\ X3\ (k6\_partfun1\ X1)\ (k5\_finseqop\ X1\ X3)))))))\Rightarrow(k5\_binop\_1\ X1\ X4\ (k7\_setwiseo X0\ X1\ X3\ X2\ X5)\ (k7\_setwiseo\ X0\ X1\ X3\ X2\ X6) = k7\_setwiseo\ X0\ X1\ X3\ X2\ (k6\_funcop\_1\ X1\ X0\ X4\ X5\ X6)))))))))$$