t15_setwop_2 (TMEggdxZiXN88L8nvQeyoUymRQ8Gjgjo4R7)

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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 $r6\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k9\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))) \Rightarrow (((v2\_binop\_1\ X2\ X0) \wedge ((v1\_setwiseo\ X2\ X0) \wedge ((v1\_finseqop\ X2\ X0) \wedge ((r6\_binop\_1\ X0\ X3\ X2) \wedge (X1 = k4\_binop\_1\ X0\ X2))))) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ X0) \Rightarrow ((k5\_binop\_1\ X0\ X3\ X1\ X4 = X1) \wedge (k5\_binop\_1\ X0\ X3\ X4\ X1 = X1)))))))) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k5\_finsub\_1\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ X1) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ X1) \Rightarrow (\forall X5.((v1\_funct\_1\ X5) \wedge ((v1\_funct\_2\ X5\ (k2\_zfmisc\_1\ X1\ X1)\ X1) \wedge (m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1))))) \Rightarrow (\forall X6.((v1\_funct\_1\ X6) \wedge ((v1\_funct\_2\ X6\ (k2\_zfmisc\_1\ X1\ X1)\ X1) \wedge (m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1))))) \Rightarrow (\forall X7.((v1\_funct\_1\ X7) \wedge ((v1\_funct\_2\ X7\ X0\ X1) \wedge (m1\_subset\_1\ X7\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \Rightarrow (((v1\_binop\_1\ X5\ X1) \wedge ((v2\_binop\_1\ X5\ X1) \wedge ((v1\_setwiseo\ X5\ X1) \wedge ((X3 = k4\_binop\_1\ X1\ X5) \wedge ((r6\_binop\_1\ X1\ X6\ X5) \wedge (k5\_binop\_1\ X1\ X6\ X3\ X4 = X3)))))) \Rightarrow (k5\_binop\_1\ X1\ X6\ (k7\_setwiseo\ X0\ X1\ X5\ X2\ X7)\ X4 = k7\_setwiseo\ X0\ X1\ X5\ X2\ (k9\_funcop\_1\ X1\ X0\ X6\ X7\ X4)))))))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\Rightarrow(m1\_subset\_1\ (k4\_binop\_1\ X0\ X1)\ X0) \tag{3}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k5\_finsub\_1\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ X1)\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ X1\ X1)\ X1)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1)))))\Rightarrow(\forall X5.((v1\_funct\_1\ X5)\wedge((v1\_funct\_2\ X5\ (k2\_zfmisc\_1\ X1\ X1)\ X1)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1)))))\Rightarrow(\forall X6.((v1\_funct\_1\ X6)\wedge((v1\_funct\_2\ X6\ X0\ X1)\wedge(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\Rightarrow(((v1\_binop\_1\ X4\ X1)\wedge((v2\_binop\_1\ X4\ X1)\wedge((v1\_setwiseo\ X4\ X1)\wedge((v1\_finseqop\ X4\ X1)\wedge(r6\_binop\_1\ X1\ X5\ X4)))))\Rightarrow(k5\_binop\_1\ X1\ X5\ (k7\_setwiseo\ X0\ X1\ X4\ X2\ X6)\ X3 = k7\_setwiseo\ X0\ X1\ X4\ X2\ (k9\_funcop\_1\ X1\ X0\ X5\ X6\ X3)))))))))$$