t35_setwiseo (TMW4Hh7Pe8QCw76swBnPd4nWsBfmUjzCR28)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ 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 $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v3\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k5\_finsub\_1 : \iota \Rightarrow \iota$ be given. Let $k7\_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k1\_setwiseo : \iota \Rightarrow \iota$ be given. Let $k4\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))) \Rightarrow (((v1\_binop\_1\ X2\ X0) \wedge ((v2\_binop\_1\ X2\ X0) \wedge (v1\_setwiseo\ X2\ X0))) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ X1\ X0) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X0))))) \Rightarrow (k7\_setwiseo\ X1\ X0\ X2\ (k1\_setwiseo\ X1)\ X3 = k4\_binop\_1\ X0\ X2))))) \tag{2}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow (\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge ((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\Rightarrow(((v3\_binop\_1\ X3\ X0)\wedge ((v1\_binop\_1\ X3\ X0)\wedge(v2\_binop\_1\ X3\ X0)))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (k5\_finsub\_1\ X1))\Rightarrow((X4\neq k1\_xboole\_0)\Rightarrow(\forall X5.((v1\_funct\_1\ X5)\wedge((v1\_funct\_2\ X5\ X1\ X2)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X2)))))\Rightarrow(\forall X6.((v1\_funct\_1\ X6)\wedge((v1\_funct\_2\ X6\ X2\ X0)\wedge (m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X2\ X0)))))\Rightarrow(k7\_setwiseo\ X2\ X0\ X3\ (k8\_setwiseo\ X1\ X2\ X5\ X4)\ X6 = k7\_setwiseo\ X1\ X0\ X3\ X4\ (k1\_partfun1\ X1\ X2\ X2\ X0\ X5\ X6)))))))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge ((\neg v1\_xboole\_0\ X1)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge(m1\_subset\_1\ X3\ (k5\_finsub\_1\ X0)))))\Rightarrow(k8\_setwiseo\ X0\ X1\ X2\ X3 = k7\_relat\_1\ X2\ X3) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.\ (((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\wedge((v1\_funct\_1\ X5)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X2\ X3)))))\Rightarrow(k1\_partfun1\ X0\ X1\ X2\ X3\ X4\ X5 = k3\_relat\_1\ X4\ X5) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1\_xboole\_0\ X1)\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ X0\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ X1\ X2)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X2)))))))\Rightarrow ((v1\_funct\_1\ (k3\_relat\_1\ X3\ X4))\wedge(v1\_funct\_2\ (k3\_relat\_1\ X3\ X4)\ X0\ X2)) \tag{6}$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge(v1\_xboole\_0\ X1))\Rightarrow(v1\_xboole\_0\ (k7\_relat\_1\ X0\ X1)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.$$
$$(((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1$$
$$X0\ X1))))\wedge((v1\_funct\_1\ X5)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1$$
$$X2\ X3)))))\Rightarrow((v1\_funct\_1\ (k1\_partfun1\ X0\ X1\ X2\ X3\ X4\ X5))\wedge(m1\_subset\_1$$
$$(k1\_partfun1\ X0\ X1\ X2\ X3\ X4\ X5)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X3))))) \tag{9}$$

Assume the following.

$$\forall X0.k1\_setwiseo\ X0 = k1\_xboole\_0 \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1$$
$$(k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{11}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow$$
$$(\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge$$
$$((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1$$
$$(k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\Rightarrow(((v3\_binop\_1\ X3\ X0)\wedge$$
$$((v1\_binop\_1\ X3\ X0)\wedge((v2\_binop\_1\ X3\ X0)\wedge(v1\_setwiseo\ X3\ X0))))\Rightarrow$$
$$(\forall X4.(m1\_subset\_1\ X4\ (k5\_finsub\_1\ X1))\Rightarrow(\forall X5.((($$
$$v1\_funct\_1\ X5)\wedge((v1\_funct\_2\ X5\ X1\ X2)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1$$
$$(k2\_zfmisc\_1\ X1\ X2)))))\Rightarrow(\forall X6.((v1\_funct\_1\ X6)\wedge((v1\_funct\_2$$
$$X6\ X2\ X0)\wedge(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X2\ X0)))))\Rightarrow$$
$$(k7\_setwiseo\ X2\ X0\ X3\ (k8\_setwiseo\ X1\ X2\ X5\ X4)\ X6 = k7\_setwiseo\ X1$$
$$X0\ X3\ X4\ (k1\_partfun1\ X1\ X2\ X2\ X0\ X5\ X6)))))))))$$