

t50\_setwiseo  
(TMTW5SRcazndiZy7HUTXiQNTXTbN6BXnXys)

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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  $k5\_finsub\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k7\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_finsub\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. k3\_tarski (k2\_xboole\_0 X0 X1) = k2\_xboole\_0 (k3\_tarski X0) (k3\_tarski X1) \quad (1)$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. \forall X2. ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 (k5\_finsub\_1 X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (k5\_finsub\_1 X1)))))) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (k5\_finsub\_1 X0)) \Rightarrow (k10\_setwiseo X0 X1 X3 X2 = k3\_tarski (k8\_setwiseo X0 (k5\_finsub\_1 X1) X2 X3)))))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow (k7\_relat\_1 X2 (k2\_xboole\_0 X0 X1) = k2\_xboole\_0 (k7\_relat\_1 X2 X0) (k7\_relat\_1 X2 X1)) \quad (3)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k5\_finsub\_1 X0))\wedge(m1\_subset\_1 X2 (k5\_finsub\_1 X0)))\Rightarrow(k5\_setwiseo X0 X1 X2 = k2\_xboole\_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 (k5\_finsub\_1 X0))\wedge(v4\_finsub\_1 (k5\_finsub\_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k5\_finsub\_1 X0))\wedge(m1\_subset\_1 X2 (k5\_finsub\_1 X0)))\Rightarrow(m1\_subset\_1 (k5\_setwiseo X0 X1 X2) (k5\_finsub\_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge((m1\_subset\_1 X2 (k5\_finsub\_1 X0))\wedge((v1\_funct\_1 X3)\wedge((v1\_funct\_2 X3 X0 (k5\_finsub\_1 X1))\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (k5\_finsub\_1 X1))))))))\Rightarrow(m1\_subset\_1 (k10\_setwiseo X0 X1 X2 X3) (k5\_finsub\_1 X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (9)$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.\forall X2.((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 (k5\_finsub\_1 X1))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (k5\_finsub\_1 X1))))))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (k5\_finsub\_1 X0))\Rightarrow(\forall X4.(m1\_subset\_1 X4 (k5\_finsub\_1 X0))\Rightarrow(k10\_setwiseo X0 X1 (k5\_setwiseo X0 X3 X4) X2 = k5\_setwiseo X1 (k10\_setwiseo X0 X1 X3 X2) (k10\_setwiseo X0 X1 X4 X2))))))$$