

t44_setwiseo (TMKkPg-
YnN4yYLqUuxgTFwnd6STww649xX5e)

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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 $k2_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_setwiseo : \iota \Rightarrow \iota$ be given. Let $v1_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_finsub_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.v2_binop_1 (k9_setwiseo X0) (k5_finsub_1 X0) \quad (1)$$

Assume the following.

$$\forall X0.v1_binop_1 (k9_setwiseo X0) (k5_finsub_1 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 \\ & X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0) X0)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X1 \\ & X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))))) \Rightarrow (((\\ & v1_binop_1 X2 X0) \wedge (v2_binop_1 X2 X0)) \Rightarrow (\forall X4.(m1_subset_1 \\ & X4 X1) \Rightarrow (k7_setwiseo X1 X0 X2 (k2_setwiseo X1 X4) X3 = k3_funct_2 X1 \\ & X0 X3 X4)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 (k5_finsub_1 X0)) \wedge (v4_finsub_1 (k5_finsub_1 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_funct_1 (k9_setwiseo X0)) \wedge ((v1_funct_2 (k9_setwiseo \\ & X0) (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) (k5_finsub_1 \\ & X0)) \wedge (m1_subset_1 (k9_setwiseo X0) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) (k5_finsub_1 \\ & X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow (m1_subset_1 (k2_setwiseo X0 X1) (k5_finsub_1 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.\forall X2.(m1_subset_1 \\ X2 (k5_finsub_1 X0))\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge((v1_funct_2 \\ X3 X0 (k5_finsub_1 X1))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 (k5_finsub_1 X1))))))\Rightarrow(k10_setwiseo X0 X1 X2 X3 = k7_setwiseo \\ X0 (k5_finsub_1 X1) (k9_setwiseo X1) X2 X3))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.\forall X2.((v1_funct_1 \\ X2)\wedge((v1_funct_2 X2 X0 (k5_finsub_1 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 (k5_finsub_1 X1))))))\Rightarrow(\forall X3.(m1_subset_1 \\ X3 X0)\Rightarrow(k10_setwiseo X0 X1 (k2_setwiseo X0 X3) X2 = k3_funct_2 X0 \\ (k5_finsub_1 X1) X2 X3))) \end{aligned}$$