

t34\_setwiseo  
(TMNS55photjCcibQkVtADdAheXVzPDqhR4C)

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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  $v1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_setwiseo : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_finsub\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_setwiseo : \iota \Rightarrow \iota$  be given. Let  $k4\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k7\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (k2\_zfmisc\_1 X0 \\ & X0) X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X0) X0)))))) \Rightarrow (((v1\_binop\_1 X2 X0) \wedge ((v2\_binop\_1 X2 X0) \wedge (v1\_setwiseo \\ & X2 X0))) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X1 X0) \wedge \\ & (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0)))))) \Rightarrow (k7\_setwiseo \\ & X1 X0 X2 (k1\_setwiseo X1) X3 = k4\_binop\_1 X0 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (k2\_zfmisc\_1 X1 \\ & X1) X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X1 X1) X1)))))) \Rightarrow (((v1\_binop\_1 X2 X1) \wedge ((v2\_binop\_1 X2 X1) \wedge (v3\_binop\_1 \\ & X2 X1))) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X1) \wedge \\ & (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow (\forall X4. \\ & ((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 X4 X0 X1) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (k5\_finsub\_1 \\ & X0)) \Rightarrow (\forall X6.(m1\_subset\_1 X6 (k5\_finsub\_1 X0)) \Rightarrow ((k7\_relset\_1 \\ & X0 X1 X3 X5 = k7\_relset\_1 X0 X1 X4 X6) \Rightarrow ((X5 = k1\_xboole\_0) \vee (k7\_setwiseo \\ & X0 X1 X2 X5 X3 = k7\_setwiseo X0 X1 X2 X6 X4)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & ((\neg v1\_xboole\_0 X1)\wedge((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))))\wedge(m1\_subset\_1 \\ & X3 (k5\_finsub\_1 X0))))\Rightarrow(k8\_setwiseo X0 X1 X2 X3 = k7\_relat\_1 X2 \\ & X3) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 X2 ( \\ & k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(k7\_relat\_1 X0 X1 X2 X3 = k7\_relat\_1 \\ & X2 X3) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.k1\_setwiseo X0 = k1\_xboole\_0 \tag{5}$$

**Theorem 1**

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