

t65\_finseqop  
(TMLSJw1gpXir7JSbYUL6rrJsNs7L927RyhZ)

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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  $v1\_funct\_1 : \iota \Rightarrow o$  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  $v1\_setwiseo : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_finseqop : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow \\ & (\forall X2. (m1\_subset\_1 X2 X0) \Rightarrow (\forall X3. (m1\_subset\_1 X3 X0) \Rightarrow \\ & (\forall X4. ((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 X4 (k2\_zfmisc\_1 X0 \\ & X0) X0) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X0) X0)))))) \Rightarrow (((v1\_setwiseo X4 X0) \wedge ((v2\_binop\_1 X4 X0) \wedge (v1\_finseqop \\ & X4 X0))) \Rightarrow (((k5\_binop\_1 X0 X4 X1 X2 \neq k5\_binop\_1 X0 X4 X1 X3) \wedge (k5\_binop\_1 \\ & X0 X4 X2 X1 \neq k5\_binop\_1 X0 X4 X3 X1)) \vee (X2 = X3))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 (k2\_zfmisc\_1 X0 X0) X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0)))))) \Rightarrow ((v1\_setwiseo X1 X0) \Rightarrow \\ & (\forall X2. (m1\_subset\_1 X2 X0) \Rightarrow ((k5\_binop\_1 X0 X1 (k4\_binop\_1 \\ & X0 X1) X2 = X2) \wedge (k5\_binop\_1 X0 X1 X2 (k4\_binop\_1 X0 X1) = X2)))))) \end{aligned} \quad (2)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow \\ & \quad (\forall X2.(m1\_subset\_1 X2 X0) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge \\ & ((v1\_funct\_2 X3 (k2\_zfmisc\_1 X0 X0) X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0)))))) \Rightarrow (((v1\_setwiseo X3 X0) \wedge \\ & ((v2\_binop\_1 X3 X0) \wedge (v1\_finseqop X3 X0))) \Rightarrow (((k5\_binop\_1 X0 X3 \\ & X1 X2 \neq X2) \wedge (k5\_binop\_1 X0 X3 X2 X1 \neq X2)) \vee (X1 = k4\_binop\_1 X0 X3)))))) \end{aligned}$$