

t87_finseqop (TMK- fLn5UJ2Fg7P7uoUwkWK5kjRwwKrrTkpF)

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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 $v2_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_setwiseo : \iota \Rightarrow \iota \Rightarrow o$ 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 $k7_finseqop : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $k5_finseqop : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow \\
& (\forall X2. (m1_subset_1 X2 X0) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge \\
& ((v1_funct_2 X3 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow (\forall X4. ((v1_funct_1 \\
& X4) \wedge ((v1_funct_2 X4 X0 X0) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0)))))) \Rightarrow ((k5_binop_1 X0 (k7_finseqop X0 X3 (k6_partfun1 X0 \\
& X4) X1 X2 = k5_binop_1 X0 X3 X1 (k3_funct_2 X0 X0 X4 X2)) \wedge (k5_binop_1 \\
& X0 (k7_finseqop X0 X3 X4 (k6_partfun1 X0)) X1 X2 = k5_binop_1 X0 X3 \\
& (k3_funct_2 X0 X0 X4 X1) X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\
& (v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow (((v1_setwiseo X1 X0) \wedge \\
& ((v2_binop_1 X1 X0) \wedge (v1_finseqop X1 X0))) \Rightarrow (k3_funct_2 X0 X0 (k5_finseqop \\
& X0 X1) (k4_binop_1 X0 X1) = k4_binop_1 X0 X1))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\
& (v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow ((v1_setwiseo X1 X0) \Rightarrow \\
& (\forall X2. (m1_subset_1 X2 X0) \Rightarrow ((k5_binop_1 X0 X1 (k4_binop_1 \\
& X0 X1) X2 = X2) \wedge (k5_binop_1 X0 X1 X2 (k4_binop_1 X0 X1) = X2))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow ((v1_funct_1 (k5_finseqop \\ & X0 X1)) \wedge ((v1_funct_2 (k5_finseqop X0 X1) X0 X0) \wedge (m1_subset_1 (\\ & k5_finseqop X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 \\ & X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0) X0)))))) \Rightarrow (m1_subset_1 (k4_binop_1 X0 X1) X0) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow \\ & (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 \\ & X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0) X0)))))) \Rightarrow (((v2_binop_1 X2 X0) \wedge ((v1_setwiseo X2 X0) \wedge (v1_finseqop \\ & X2 X0))) \Rightarrow (k5_binop_1 X0 (k7_finseqop X0 X2 (k6_partfun1 X0) (k5_finseqop \\ & X0 X2)) X1 (k4_binop_1 X0 X2) = X1)))) \end{aligned}$$