

l22_finsop_1
(TMRB7DRjhBMpqxxrFtCrktzY3hFEkYfZsHN)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_setwiseo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_finsop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k8_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))) \Rightarrow ((v1_setwiseo X1 X0) \Rightarrow \\ & (\forall X2. (m1_subset_1 X2 X0) \Rightarrow ((k5_binop_1 X0 X1 (k4_binop_1 \\ & X0 X1) X2 = X2) \wedge (k5_binop_1 X0 X1 X2 (k4_binop_1 X0 X1) = X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 \\ & X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0) X0)))) \Rightarrow (m1_subset_1 (k4_binop_1 X0 X1) X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 \\
& X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0) X0)))))) \Rightarrow (((v1_setwiseo X2 X0) \vee (r1_xxreal_0 np_1 (k3_finseq_1 \\
& X1))) \Rightarrow (\forall X3.(m1_subset_1 X3 X0) \Rightarrow (((v1_setwiseo X2 X0) \wedge \\
& (k3_finseq_1 X1 = k6_numbers)) \Rightarrow ((X3 = k1_finsop_1 X0 X1 X2) \Leftrightarrow (X3 = \\
& k4_binop_1 X0 X2))) \wedge ((\neg (v1_setwiseo X2 X0) \wedge (k3_finseq_1 X1 = k6_numbers)) \Rightarrow \\
& ((X3 = k1_finsop_1 X0 X1 X2) \Leftrightarrow (\exists X4.((v1_funct_1 X4) \wedge ((v1_funct_2 \\
& X4 k5_numbers X0) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\
& X0)))))) \wedge ((k8_nat_1 X0 X4 np_1 = k1_funct_1 X1 np_1) \wedge ((\forall X5. \\
& (m1_subset_1 X5 k5_numbers) \Rightarrow (\neg (k6_numbers \neq X5) \wedge ((\neg r1_xxreal_0 \\
& (k3_finseq_1 X1) X5) \wedge (k8_nat_1 X0 X4 (k2_nat_1 X5 np_1) \neq k1_binop_1 \\
& X2 (k8_nat_1 X0 X4 X5) (k1_funct_1 X1 (k2_nat_1 X5 np_1)))))) \wedge (\\
& X3 = k8_nat_1 X0 X4 (k3_finseq_1 X1))))))))) \quad (3)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\
& (\forall X2.(m2_finseq_1 X2 X0) \Rightarrow (\forall X3.(m2_finseq_1 X3 X0) \Rightarrow \\
& (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (k2_zfmisc_1 X0 \\
& X0) X0) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0) X0)))))) \Rightarrow (((v1_setwiseo X4 X0) \wedge ((k3_finseq_1 X1 = k6_numbers) \wedge \\
& ((k3_finseq_1 X1 = k3_finseq_1 X2) \wedge (k3_finseq_1 X1 = k3_finseq_1 \\
& X3)))) \Rightarrow (k1_finsop_1 X0 X1 X4 = k5_binop_1 X0 X4 (k1_finsop_1 X0 X2 \\
& X4) (k1_finsop_1 X0 X3 X4))))))
\end{aligned}$$