

l82_normform

(TMRg548NavP98r3sF17D8RXk4B6x5Fi9Psw)

October 27, 2020

Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_finsub_1 : \iota \Rightarrow \iota$ be given. Let $k7_normform : \iota \Rightarrow \iota$ be given. Let $k8_normform : \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_lattices : \iota \Rightarrow \iota$ be given. Let $k12_normform : \iota \Rightarrow \iota$ be given. Let $u2_lattices : \iota \Rightarrow \iota$ be given. Let $k10_normform : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_normform : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_lattices : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_normform : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m2_subset_1 X1 (k5_finsub_1 (k7_normform \\ & X0)) (k8_normform X0)) \Rightarrow (\forall X2. (m2_subset_1 X2 (k5_finsub_1 \\ & (k7_normform X0)) (k8_normform X0)) \Rightarrow (\forall X3. (m2_subset_1 \\ & X3 (k5_finsub_1 (k7_normform X0)) (k8_normform X0)) \Rightarrow (k10_normform \\ & X0 X1 (k5_setwiseo (k7_normform X0) X2 X3) = k5_setwiseo (k7_normform \\ & X0) (k10_normform X0 X1 X2) (k10_normform X0 X1 X3)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k5_finsub_1 (k7_normform \\ & X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k5_finsub_1 (k7_normform \\ & X0))) \Rightarrow (k9_normform X0 (k10_normform X0 X1 (k9_normform X0 X2)) = \\ & k9_normform X0 (k10_normform X0 X1 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k5_finsub_1 (k7_normform \\ & X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k5_finsub_1 (k7_normform \\ & X0))) \Rightarrow (k9_normform X0 (k5_setwiseo (k7_normform X0) X1 (k9_normform \\ & X0 X2)) = k9_normform X0 (k5_setwiseo (k7_normform X0) X1 X2))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k5_finsub_1 (k7_normform \\ & X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k5_finsub_1 (k7_normform \\ & X0))) \Rightarrow (k9_normform X0 (k5_setwiseo (k7_normform X0) (k9_normform \\ & X0 X1) X2) = k9_normform X0 (k5_setwiseo (k7_normform X0) X1 X2))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (5)$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k8_normform X0) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k5_finsub_1 (k7_normform \\ & X0))) \Rightarrow (m2_subset_1 (k9_normform X0 X1) (k5_finsub_1 (k7_normform \\ & X0) (k8_normform X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. m1_subset_1 (k8_normform X0) (k1_zfmisc_1 (k5_finsub_1 (k7_normform X0))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k5_finsub_1 \\ & X0)) \wedge (m1_subset_1 X2 (k5_finsub_1 X0))) \Rightarrow (m1_subset_1 (k5_setwiseo \\ & X0 X1 X2) (k5_finsub_1 X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. (v3_lattices (k12_normform X0)) \wedge (l3_lattices (k12_normform X0)) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k5_finsub_1 \\ & (k7_normform X0))) \wedge (m1_subset_1 X2 (k5_finsub_1 (k7_normform \\ & X0)))) \Rightarrow (m1_subset_1 (k10_normform X0 X1 X2) (k5_finsub_1 (k7_normform \\ & X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned}
& \forall X0.k8_normform\ X0 = ReplSep\ (toset\ (\lambda X1 : \iota.m1_subset_1 \\
& \quad X1\ (k5_finsub_1\ (k7_normform\ X0))))\ (\lambda X1 : \iota.\forall X2.(\\
& \quad m2_subset_1\ X2\ (k2_zfmisc_1\ (k5_finsub_1\ X0)\ (k5_finsub_1\ X0)) \\
& \quad (k7_normform\ X0)) \Rightarrow (\forall X3.(m2_subset_1\ X3\ (k2_zfmisc_1\ (\\
& \quad k5_finsub_1\ X0)\ (k5_finsub_1\ X0))\ (k7_normform\ X0)) \Rightarrow (((X2 \in X1) \wedge \\
& \quad ((X3 \in X1) \wedge (r1_normform\ (k5_finsub_1\ X0)\ (k5_finsub_1\ X0)\ X2\ X3))) \Rightarrow \\
& \quad (X2 = X3)))\ (\lambda X1 : \iota.X1)
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v3_lattices\ X1) \wedge (l3_lattices\ X1)) \Rightarrow (\\
& \quad (X1 = k12_normform\ X0) \Leftrightarrow ((u1_struct_0\ X1 = k8_normform\ X0) \wedge (\forall X2. \\
& \quad (m2_subset_1\ X2\ (k5_finsub_1\ (k7_normform\ X0))\ (k8_normform\ X0)) \Rightarrow \\
& \quad (\forall X3.(m2_subset_1\ X3\ (k5_finsub_1\ (k7_normform\ X0))\ (k8_normform \\
& \quad X0)) \Rightarrow ((k1_binop_1\ (u2_lattices\ X1)\ X2\ X3 = k9_normform\ X0\ (k5_setwiseo \\
& \quad (k7_normform\ X0)\ X2\ X3)) \wedge (k1_binop_1\ (u1_lattices\ X1)\ X2\ X3 = k9_normform \\
& \quad X0\ (k10_normform\ X0\ X2\ X3))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\
& \quad X0)) \Rightarrow (v1_xboole_0\ X1))
\end{aligned} \tag{15}$$

Theorem 1

$$\begin{aligned}
& \forall X0.\forall X1.(m2_subset_1\ X1\ (k5_finsub_1\ (k7_normform \\
& \quad X0))\ (k8_normform\ X0)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k5_finsub_1 \\
& \quad (k7_normform\ X0))\ (k8_normform\ X0)) \Rightarrow (\forall X3.(m2_subset_1 \\
& \quad X3\ (k5_finsub_1\ (k7_normform\ X0))\ (k8_normform\ X0)) \Rightarrow (k1_binop_1 \\
& \quad (u1_lattices\ (k12_normform\ X0))\ X1\ (k1_binop_1\ (u2_lattices\ (\\
& \quad k12_normform\ X0))\ X2\ X3) = k1_binop_1\ (u2_lattices\ (k12_normform \\
& \quad X0))\ (k1_binop_1\ (u1_lattices\ (k12_normform\ X0))\ X1\ X2)\ (k1_binop_1 \\
& \quad (u1_lattices\ (k12_normform\ X0))\ X1\ X3))))
\end{aligned}$$