

l23_normform

(TMKcrFGW16JprtewUiGgMx3KiP4eZrPa3wS)

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Let $v3_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_normform : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_finsub_1 : \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v4_finsub_1 : \iota \Rightarrow o$ be given. Let $k1_normform : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X1) \wedge \\ & ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \wedge ((m1_subset_1 X2 X0) \wedge \\ & (m1_subset_1 X3 X0))) \Rightarrow (k5_binop_1 X0 X1 X2 X3 = k1_binop_1 X1 X2 X3) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X1) \wedge \\ & ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \wedge ((m1_subset_1 X2 X0) \wedge \\ & (m1_subset_1 X3 X0))) \Rightarrow (k3_binop_1 X0 X1 X2 X3 = k1_binop_1 X1 X2 X3) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v1_xboole_0 \\ & X0) \wedge (v4_finsub_1 X0)) \wedge (((\neg v1_xboole_0 X1) \wedge (v4_finsub_1 X1)) \wedge \\ & ((m1_subset_1 X2 (k2_zfmisc_1 X0 X1)) \wedge (m1_subset_1 X3 (k2_zfmisc_1 \\ & X0 X1)))))) \Rightarrow (k1_normform X0 X1 X2 X2 = X2) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. (\neg v1_xboole_0 (k5_finsub_1 X0)) \wedge (v4_finsub_1 (k5_finsub_1 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_funct_1 (k5_normform X0)) \wedge ((v1_funct_2 (k5_normform \\ & X0) (k2_zfmisc_1 (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) \\ & (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0))) (k2_zfmisc_1 \\ & (k5_finsub_1 X0) (k5_finsub_1 X0))) \wedge (m1_subset_1 (k5_normform \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k5_finsub_1 \\ & X0) (k5_finsub_1 X0)) (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 \\ & X0))) (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) (k2_zfmisc_1 \\ & (k5_finsub_1 X0) (k5_finsub_1 X0))) (k2_zfmisc_1 (k5_finsub_1 \\ & X0) (k5_finsub_1 X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) \\ & (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0))) (k2_zfmisc_1 \\ & (k5_finsub_1 X0) (k5_finsub_1 X0)))))) \Rightarrow ((X1 = k5_normform X0) \Leftrightarrow \\ & (\forall X2.(m1_subset_1 X2 (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 \\ & X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (k2_zfmisc_1 (k5_finsub_1 \\ & X0) (k5_finsub_1 X0))) \Rightarrow (k5_binop_1 (k2_zfmisc_1 (k5_finsub_1 \\ & X0) (k5_finsub_1 X0)) X1 X2 X3 = k1_normform (k5_finsub_1 X0) (k5_finsub_1 \\ & X0) X2 X3)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 \\ & X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0) X0)))) \Rightarrow ((v3_binop_1 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 \\ & X0) \Rightarrow (k3_binop_1 X0 X1 X2 X2 = X2))) \end{aligned} \quad (7)$$

Theorem 1

$$\forall X0.v3_binop_1 (k5_normform X0) (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0))$$