

l24_normform (TM- FWQEPo7ijtp8jmRZhx2UrETZUvCCm93sG)

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Let $v1_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ 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.

$$\forall X0. (\neg v1_xboole_0 (k5_finsub_1 X0)) \wedge (v4_finsub_1 (k5_finsub_1 X0)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_funct_1 (k5_normform X0)) \wedge ((v1_funct_2 (k5_normform \\ & X0) (k2_zfmisc_1 (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) \\ & (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0))) (k2_zfmisc_1 \\ & (k5_finsub_1 X0) (k5_finsub_1 X0))) \wedge (m1_subset_1 (k5_normform \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k5_finsub_1 \\ & X0) (k5_finsub_1 X0)) (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 \\ & X0))) (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) (k2_zfmisc_1 \\
& (k5_finsub_1 X0) (k5_finsub_1 X0))) (k2_zfmisc_1 (k5_finsub_1 \\
& X0) (k5_finsub_1 X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) \\
& (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0))) (k2_zfmisc_1 \\
& (k5_finsub_1 X0) (k5_finsub_1 X0)))))) \Rightarrow ((X1 = k5_normform X0) \Leftrightarrow \\
& (\forall X2. (m1_subset_1 X2 (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 \\
& X0))) \Rightarrow (\forall X3. (m1_subset_1 X3 (k2_zfmisc_1 (k5_finsub_1 \\
& X0) (k5_finsub_1 X0))) \Rightarrow (k5_binop_1 (k2_zfmisc_1 (k5_finsub_1 \\
& X0) (k5_finsub_1 X0)) X1 X2 X3 = k1_normform (k5_finsub_1 X0) (k5_finsub_1 \\
& X0) X2 X3))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 \\
& X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0) X0)))) \Rightarrow ((v1_binop_1 X1 X0) \Leftrightarrow (\forall X2. (m1_subset_1 X2 \\
& X0) \Rightarrow (\forall X3. (m1_subset_1 X3 X0) \Rightarrow (k3_binop_1 X0 X1 X2 X3 = k3_binop_1 \\
& X0 X1 X3 X2))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v1_xboole_0 \\
& X0) \wedge (v4_finsub_1 X0)) \wedge (((\neg v1_xboole_0 X1) \wedge (v4_finsub_1 X1)) \wedge \\
& ((m1_subset_1 X2 (k2_zfmisc_1 X0 X1)) \wedge (m1_subset_1 X3 (k2_zfmisc_1 \\
& X0 X1)))))) \Rightarrow (k1_normform X0 X1 X2 X3 = k1_normform X0 X1 X3 X2)
\end{aligned} \tag{7}$$

Theorem 1

$$\forall X0. v1_binop_1 (k5_normform X0) (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0))$$