

t43_normform

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_finsub_1 : \iota \Rightarrow \iota$ be given. Let $k7_normform : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_normform : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k8_normform : \iota \Rightarrow \iota$ be given. Let $v4_finsub_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m2_subset_1 X1 (k2_zfmisc_1 (k5_finsub_1 \\ & X0) (k5_finsub_1 X0)) (k7_normform X0)) \Rightarrow (\forall X2. (m1_subset_1 \\ & X2 (k5_finsub_1 (k7_normform X0))) \Rightarrow (((X1 \in X2) \wedge (\forall X3. (m2_subset_1 \\ & X3 (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) (k7_normform \\ & X0)) \Rightarrow (((X3 \in X2) \wedge (r1_normform (k5_finsub_1 X0) (k5_finsub_1 X0) \\ & X3 X1)) \Rightarrow (X3 = X1)))) \Rightarrow (X1 \in k9_normform X0 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k5_finsub_1 \\ & X0)) \wedge (m1_subset_1 X2 (k5_finsub_1 X0))) \Rightarrow (k5_setwiseo X0 X1 X2 = \\ & k2_xboole_0 X1 X2) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k5_finsub_1 (k7_normform \\ & X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k5_finsub_1 (k7_normform \\ & X0))) \Rightarrow ((\forall X3. (m2_subset_1 X3 (k2_zfmisc_1 (k5_finsub_1 \\ & X0) (k5_finsub_1 X0)) (k7_normform X0)) \Rightarrow ((X3 \in X1) \Rightarrow (X3 \in X2))) \Rightarrow \\ & (r1_tarski X1 X2))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k8_normform X0) \quad (4)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 (k5_finsub_1 X0)) \wedge (v4_finsub_1 (k5_finsub_1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k5_finsub_1 (k7_normform X0))) \Rightarrow (m2_subset_1 (k9_normform X0 X1) (k5_finsub_1 (k7_normform X0)) (k8_normform X0)) \quad (7)$$

Assume the following.

$$\forall X0.m1_subset_1 (k8_normform X0) (k1_zfmisc_1 (k5_finsub_1 (k7_normform X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k5_finsub_1 X0)) \wedge (m1_subset_1 X2 (k5_finsub_1 X0))) \Rightarrow (m1_subset_1 (k5_setwiseo X0 X1 X2) (k5_finsub_1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.k7_normform X0 = ReplSep (toset (\lambda X1 : \iota.m1_subset_1 X1 (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)))) (\lambda X1 : \iota.r1_xboole_0 (k2_domain_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) X1) (k3_domain_1 (k5_finsub_1 X0) (k5_finsub_1 X0) X1)) (\lambda X1 : \iota.X1) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_xboole_0 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k5_finsub_1 (k7_normform X0))) \Rightarrow (k9_normform X0 X1 = ReplSep (toset (\lambda X2 : \iota.m2_subset_1 X2 (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) (k7_normform X0))) (\lambda X2 : \iota.\forall X3.(m2_subset_1 X3 (k2_zfmisc_1 (k5_finsub_1 X0) (k5_finsub_1 X0)) (k7_normform X0)) \Rightarrow (((X3 \in X1) \wedge (r1_normform (k5_finsub_1 X0) (k5_finsub_1 X0) X3 X2)) \Leftrightarrow (X3 = X2))) (\lambda X2 : \iota.X2)) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k5_finsub_1 \\ X0))\wedge(m1_subset_1 X2 (k5_finsub_1 X0)))\Rightarrow(k5_setwiseo X0 X1 X2 = \\ k5_setwiseo X0 X2 X1) \end{aligned} \tag{13}$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.(m1_subset_1 X1 (k5_finsub_1 (k7_normform \\ X0)))\Rightarrow(\forall X2.(m1_subset_1 X2 (k5_finsub_1 (k7_normform \\ X0)))\Rightarrow(r1_tarski (k9_normform X0 (k5_setwiseo (k7_normform X0) \\ X1 X2)) (k5_setwiseo (k7_normform X0) (k9_normform X0 X1) X2))) \end{aligned}$$