

t103_zfmisc_1

(TMY1NCccxrfQuKoY1XS7xNKtWx8tNfurb27)

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Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k4_xboole_0 X0 (k3_xboole_0 X1 X2) = k2_xboole_0 (k4_xboole_0 X0 X1) (k4_xboole_0 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. k2_xboole_0 X0 k1_xboole_0 = X0 \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (k2_zfmisc_1 (k4_xboole_0 X0 X1) X2 = k4_xboole_0 (k2_zfmisc_1 X0 X2) (k2_zfmisc_1 X1 X2)) \wedge (k2_zfmisc_1 X2 (k4_xboole_0 X0 X1) = k4_xboole_0 (k2_zfmisc_1 X2 X0) (k2_zfmisc_1 X2 X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. k2_zfmisc_1 (k3_xboole_0 X0 X1) (k3_xboole_0 X2 X3) = k3_xboole_0 (k2_zfmisc_1 X0 X2) (k2_zfmisc_1 X1 X3) \quad (5)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k4_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (9)$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.\forall X3.k4_xboole_0 (k2_zfmisc_1 X0 X1) (k2_zfmisc_1 X2 X3) = k2_xboole_0 (k2_zfmisc_1 (k4_xboole_0 X0 X2) X1) (k2_zfmisc_1 X0 (k4_xboole_0 X1 X3))$$