

t15\_subset\_1  
(TMcXPx6QyGvsd9G8ye23Z1rt5zgdze9eZjj)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k4\_xboole\_0 X0 (k2\_xboole\_0 X1 X2) = k3\_xboole\_0 (k4\_xboole\_0 X0 X1) (k4\_xboole\_0 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0.k4\_xboole\_0 X0 k1\_xboole\_0 = X0 \quad (3)$$

Assume the following.

$$\forall X0.k3\_xboole\_0 X0 k1\_xboole\_0 = k1\_xboole\_0 \quad (4)$$

Assume the following.

$$\forall X0.k2\_xboole\_0 X0 k1\_xboole\_0 = X0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k4\_xboole\_0 X0 (k5\_xboole\_0 X1 X2) = k2\_xboole\_0 (k4\_xboole\_0 X0 (k2\_xboole\_0 X1 X2)) (k3\_xboole\_0 (k3\_xboole\_0 X0 X1) X2) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (k9\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k6\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (k5\_subset\_1 X0 X1 X2 = k5\_xboole\_0 X1 X2) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (k4\_subset\_1 X0 X1 X2 = k2\_xboole\_0 X1 X2) \quad (10)$$

Assume the following.

$$\forall X0.\exists X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \wedge (v1\_xboole\_0 X1) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k3\_subset\_1 X0 (k3\_subset\_1 X0 X1) = X1) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X0 = X0 \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (m1\_subset\_1 (k9\_subset\_1 X0 X1 X2) (k1\_zfmisc\_1 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.m1\_subset\_1 (k6\_subset\_1 X0 X1) (k1\_zfmisc\_1 X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (m1\_subset\_1 (k4\_subset\_1 X0 X1 X2) (k1\_zfmisc\_1 X0)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (m1\_subset\_1 (k3\_subset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.k5\_xboole\_0 X0 X1 = k2\_xboole\_0 (k4\_xboole\_0 X0 X1) (k4\_xboole\_0 X1 X0) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k3\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X1 = k3\_xboole\_0 X1 X0 \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (21)$$

**Theorem 1**

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (k3\_subset\_1 X0 (k5\_subset\_1 X0 X1 X2) = k4\_subset\_1 X0 (k9\_subset\_1 X0 X1 X2) (k9\_subset\_1 X0 (k3\_subset\_1 X0 X1) (k3\_subset\_1 X0 X2))))$$