t88_flang_2 (TMRNtr6w6zjdAnkJBfcas3JLsc3E9t34Vk8)

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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 $k8\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_flang\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_flang\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_flang\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_catalan2 : \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $k4\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X0))) \Rightarrow (k2\_flang\_2\ X0\ X1 = k4\_subset\_1\ (k8\_afinsq\_1\ X0)\ (k4\_flang\_1\ X0\ (k2\_flang\_1\ X0))\ X1) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k2\_xboole\_0\ (k2\_xboole\_0\ X0\ X1)\ X2 = k2\_xboole\_0\ (k2\_xboole\_0\ X0\ X2)\ (k2\_xboole\_0\ X1\ X2) \tag{3}$$

Assume the following.

$$\forall X0.k2\_xboole\_0\ X0\ k1\_xboole\_0 = X0 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))) \Rightarrow (k4\_subset\_1\ X0\ X1\ X2 = k2\_xboole\_0\ X1\ X2) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k3\_catalan2\ X0)) \Rightarrow (k4\_flang\_1\ X0\ X1 = k1\_tarski\ X1) \tag{6}$$

Assume the following.

$$\forall X0.k3\_catalan2\ X0 = k8\_afinsq\_1\ X0 \tag{7}$$

Assume the following.

$$\forall X0.k2\_flang\_1\ X0 = k4\_afinsq\_1\ X0 \tag{8}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ (k4\_afinsq\_1\ X0))\wedge((v5\_relat\_1\ (k4\_afinsq\_1\ X0)\ X0)\wedge((v5\_ordinal1\ (k4\_afinsq\_1\ X0))\wedge((v1\_funct\_1\ (k4\_afinsq\_1\ X0))\wedge((v1\_xboole\_0\ (k4\_afinsq\_1\ X0))\wedge(v1\_finset\_1\ (k4\_afinsq\_1\ X0)))))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)))\Rightarrow(m1\_subset\_1\ (k4\_subset\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k3\_catalan2\ X0))\Rightarrow(m1\_subset\_1\ (k4\_flang\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k3\_catalan2\ X0))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X0)))\Rightarrow(m1\_subset\_1\ (k2\_flang\_2\ X0\ X1)\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X0))) \tag{12}$$

Assume the following.

$$\forall X0.m1\_subset\_1\ (k2\_flang\_1\ X0)\ (k3\_catalan2\ X0) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0\ X0\ X1 = k2\_xboole\_0\ X1\ X0 \tag{14}$$

Theorem 1

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X0)))\Rightarrow(k4\_subset\_1\ (k8\_afinsq\_1\ X0)\ (k2\_flang\_2\ X0\ X1)\ (k2\_flang\_2\ X0\ X2) = k2\_flang\_2\ X0\ (k4\_subset\_1\ (k8\_afinsq\_1\ X0)\ X1\ X2)))$$