

t66\_flang\_3  
(TMHh9iNdtBf1HUCeWoJt8YqF3k3BtnoAxuj)

October 27, 2020

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  $k2\_flang\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_flang\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_flang\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_flang\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_catalan2 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k8\_afinsq\_1 X0))) \Rightarrow (k2\_flang\_3 X0 (k2\_flang\_3 X0 X1) = k2\_flang\_3 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k8\_afinsq\_1 X0))) \Rightarrow ((k2\_flang\_3 X0 (k8\_flang\_1 X0 X1) = k8\_flang\_1 X0 X1) \wedge (k8\_flang\_1 X0 (k2\_flang\_3 X0 X1) = k8\_flang\_1 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k8\_afinsq\_1 X0))) \Rightarrow (r1\_tarski (k2\_flang\_3 X0 X1) (k8\_flang\_1 X0 X1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k8\_afinsq\_1 X0))) \Rightarrow (k2\_flang\_3 X0 X1 = k6\_flang\_1 X0 (k8\_flang\_1 X0 X1) X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski X0 X0 \quad (5)$$

Assume the following.

$$\forall X0.k3\_catalan2 X0 = k8\_afinsq\_1 X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k3\_catalan2 X0))) \Rightarrow (m1\_subset\_1 (k8\_flang\_1 X0 X1) (k1\_zfmisc\_1 (k3\_catalan2 X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k8\_afinsq\_1 X0)))\Rightarrow(m1\_subset\_1 (k2\_flang\_3 X0 X1) (k1\_zfmisc\_1 (k8\_afinsq\_1 X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(X2 \in X1)) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k3\_catalan2 X0)))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k3\_catalan2 X0)))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k3\_catalan2 X0)))\Rightarrow((X3 = k6\_flang\_1 X0 X1 X2)\Leftrightarrow(\forall X4.(X4 \in X3)\Leftrightarrow(\exists X5.(m1\_subset\_1 X5 (k3\_catalan2 X0))\wedge(\exists X6.(m1\_subset\_1 X6 (k3\_catalan2 X0))\wedge((X5 \in X1)\wedge((X6 \in X2)\wedge(X4 = k1\_flang\_1 X0 X5 X6)))))))))) \quad (10) \end{aligned}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k8\_afinsq\_1 X0)))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k8\_afinsq\_1 X0))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (k8\_afinsq\_1 X0))\Rightarrow(((X2 \in k2\_flang\_3 X0 X1)\wedge(X3 \in k2\_flang\_3 X0 X1))\Rightarrow(k1\_flang\_1 X0 X2 X3 \in k2\_flang\_3 X0 X1)))) \end{aligned}$$