

t77\_afinsq\_2  
(TMJpsGxzFQP3RVZ1ccjsCt7sq1JCN9LjVQZ)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_afinsq\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_afinsq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_afinsq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k15\_afinsq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_afinsq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge \\ & (v1\_funct\_2 X1 (k2\_zfmisc\_1 X0 X0) X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0)))) \Rightarrow (\forall X2. (m1\_subset\_1 \\ & X2 X0) \Rightarrow (\forall X3. (m1\_subset\_1 X3 X0) \Rightarrow (\forall X4. (m1\_subset\_1 \\ & X4 X0) \Rightarrow (k6\_afinsq\_2 X0 (k7\_afinsq\_1 X2 X3 X4) X1 = k5\_binop\_1 X0 X1 \\ & (k5\_binop\_1 X0 X1 X2 X3) X4)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k8\_afinsq\_1 X0) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge \\ & ((m1\_subset\_1 X1 X0) \wedge ((m1\_subset\_1 X2 X0) \wedge (m1\_subset\_1 X3 X0)))) \Rightarrow \\ & (v5\_relat\_1 (k7\_afinsq\_1 X1 X2 X3) X0) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (v5\_ordinal1 (k7\_afinsq\_1 X0 X1 X2)) \wedge (v1\_finset\_1 (k7\_afinsq\_1 X0 X1 X2)) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 (k7\_afinsq\_1 X0 X1 X2)) \wedge (v1\_funct\_1 (k7\_afinsq\_1 X0 X1 X2)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v5\_relat\_1 X1 (k8\_afinsq\_1 X0))\wedge((v1\_funct\_1 X1)\wedge((v5\_ordinal1 X1)\wedge(v1\_finset\_1 X1))))))\Rightarrow (m1\_subset\_1 (k8\_afinsq\_2 X0 X1) (k8\_afinsq\_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k8\_afinsq\_1 X0))\wedge(m1\_subset\_1 X2 (k8\_afinsq\_1 X0)))\Rightarrow(m1\_subset\_1 (k15\_afinsq\_1 X0 X1 X2) (k8\_afinsq\_1 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v5\_relat\_1 X1 (k8\_afinsq\_1 X0))\wedge((v1\_funct\_1 X1)\wedge((v5\_ordinal1 X1)\wedge(v1\_finset\_1 X1))))))\Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (k8\_afinsq\_1 X0))\Rightarrow((X2 = k8\_afinsq\_2 X0 X1)\Leftrightarrow(\exists X3.((v1\_funct\_1 X3)\wedge((v1\_funct\_2 X3 (k2\_zfmisc\_1 (k8\_afinsq\_1 X0) (k8\_afinsq\_1 X0)) (k8\_afinsq\_1 X0))\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (k8\_afinsq\_1 X0) (k8\_afinsq\_1 X0)) (k8\_afinsq\_1 X0))))))\wedge((\forall X4.(m1\_subset\_1 X4 (k8\_afinsq\_1 X0))\Rightarrow(\forall X5.(m1\_subset\_1 X5 (k8\_afinsq\_1 X0))\Rightarrow(k5\_binop\_1 (k8\_afinsq\_1 X0) X3 X4 X5 = k15\_afinsq\_1 X0 X4 X5))))\wedge(X2 = k6\_afinsq\_2 (k8\_afinsq\_1 X0) X1 X3)))))) \end{aligned} \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.(m1\_subset\_1 X1 (k8\_afinsq\_1 X0))\Rightarrow(\forall X2. \\ & (m1\_subset\_1 X2 (k8\_afinsq\_1 X0))\Rightarrow(\forall X3.(m1\_subset\_1 X3 \\ & (k8\_afinsq\_1 X0))\Rightarrow(k8\_afinsq\_2 X0 (k7\_afinsq\_1 X1 X2 X3) = k15\_afinsq\_1 X0 (k15\_afinsq\_1 X0 X1 X2) X3))) \end{aligned}$$