

t29\_sf\_mastr  
(TMYUqa57hzjeRh1CrndaEZQV46tf8nNgRqy)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmf\_sa\_2 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_afinsq\_1 : \iota \Rightarrow o$  be given. Let  $k2\_sf\_mastr : \iota \Rightarrow \iota$  be given. Let  $k4\_scmf\_sa6a : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_sf\_mastr : \iota \Rightarrow \iota$  be given. Let  $k11\_compos\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_scmf\_sa6a : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_scmf\_sa\_2 : \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  be given. Let  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_3 : \iota$  be given. Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmf\_sa\_2)) \Rightarrow (k2\_sf\_mastr (k11\_compos\_1 k1\_scmf\_sa\_2 X0) = k1\_sf\_mastr X0) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v5\_relat\_1 \\ X0 (u1\_compos\_1 k1\_scmf\_sa\_2)) \wedge ((v1\_funct\_1 X0) \wedge ((\neg v1\_xboole\_0 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_afinsq\_1 X0))))))) \Rightarrow (\forall X1.( \\ (v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v5\_relat\_1 X1 \\ (u1\_compos\_1 k1\_scmf\_sa\_2)) \wedge ((v1\_funct\_1 X1) \wedge ((\neg v1\_xboole\_0 \\ X1) \wedge ((v1\_finset\_1 X1) \wedge (v1\_afinsq\_1 X1))))))) \Rightarrow (k2\_sf\_mastr \\ (k3\_scmf\_sa6a X0 X1) = k4\_subset\_1 k2\_scmf\_sa\_2 (k2\_sf\_mastr X0) \\ (k2\_sf\_mastr X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (k4\_subset\_1 X0 X1 X2 = k2\_xboole\_0 X1 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((l1\_compos\_1 X0)\wedge(m1\_subset\_1 X1 (u1\_compos\_1 \\ X0)))\Rightarrow((\neg v1\_xboole\_0 (k11\_compos\_1 X0 X1))\wedge((v1\_relat\_1 (k11\_compos\_1 \\ X0 X1))\wedge((v4\_relat\_1 (k11\_compos\_1 X0 X1) k5\_numbers)\wedge((v5\_relat\_1 \\ (k11\_compos\_1 X0 X1) (u1\_compos\_1 X0))\wedge((v1\_funct\_1 (k11\_compos\_1 \\ X0 X1))\wedge((v1\_finset\_1 (k11\_compos\_1 X0 X1))\wedge(v1\_afinsq\_1 (k11\_compos\_1 \\ X0 X1)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_extpro\_1 X1 X0)\Rightarrow((l1\_memstr\_0 X1 X0)\wedge (l1\_compos\_1 X1)) \quad (5)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow(m1\_subset\_1 (k2\_sf\_mastr X0) (k1\_zfmisc\_1 k2\_scmfsa\_2)) \quad (6)$$

Assume the following.

$$(v1\_extpro\_1 k1\_scmfsa\_2 np\_3)\wedge(l1\_extpro\_1 k1\_scmfsa\_2 np\_3) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((l1\_compos\_1 X0)\wedge(m1\_subset\_1 X1 (u1\_compos\_1 \\ X0)))\Rightarrow((v1\_relat\_1 (k11\_compos\_1 X0 X1))\wedge((v4\_relat\_1 (k11\_compos\_1 \\ X0 X1) k5\_numbers)\wedge((v5\_relat\_1 (k11\_compos\_1 X0 X1) (u1\_compos\_1 \\ X0))\wedge((v1\_funct\_1 (k11\_compos\_1 X0 X1))\wedge(v1\_finset\_1 (k11\_compos\_1 \\ X0 X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmfsa\_2))\Rightarrow(\forall X1. \\ ((v1\_relat\_1 X1)\wedge((v4\_relat\_1 X1 k5\_numbers)\wedge((v5\_relat\_1 X1 \\ (u1\_compos\_1 k1\_scmfsa\_2))\wedge((\neg v1\_xboole\_0 X1)\wedge((v1\_funct\_1 \\ X1)\wedge((v1\_finset\_1 X1)\wedge(v1\_afinsq\_1 X1)))))))\Rightarrow(k4\_scmfsa6a \\ X0 X1 = k3\_scmfsa6a (k11\_compos\_1 k1\_scmfsa\_2 X0 X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ X0))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)))\Rightarrow(k4\_subset\_1 X0 X1 X2 = \\ k4\_subset\_1 X0 X2 X1) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (11)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmfsa\_2)) \Rightarrow (\forall X1. \\ & ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v5\_relat\_1 X1 \\ & (u1\_compos\_1 k1\_scmfsa\_2)) \wedge ((v1\_funct\_1 X1) \wedge ((\neg v1\_xboole\_0 \\ & X1) \wedge ((v1\_finset\_1 X1) \wedge (v1\_afinsq\_1 X1))))))) \Rightarrow (k2\_sf\_mastr \\ & (k4\_scmfsa6a X0 X1) = k2\_xboole\_0 (k1\_sf\_mastr X0) (k2\_sf\_mastr \\ & X1))) \end{aligned}$$