

# l21\_scmfsa\_1 (TMbEVnWkpNC- NRL9mLf6qctAbWMFHSTyWa81)

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Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_scmfsa\_1 : \iota$  be given. Let  $k3\_scmfsa\_1 : \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k4\_scmfsa\_1 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $r1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k1\_scmfsa\_i : \iota$  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  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_ami\_2 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k3\_ami\_2 : \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (X1 \in X0) \Rightarrow (k1\_funct\_1 (k2\_funcop\_1 X0 X2) X1 = X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (\neg(\neg r1\_xboole\_0 X0 X1) \wedge (\forall X2. \neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1\_xboole\_0 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1))\Rightarrow(\forall X2. \\ & ((v1\_relat\_1 X2)\wedge(v1\_funct\_1 X2))\Rightarrow((\neg X0 \in k9\_xtuple\_0 X1)\Rightarrow(k1\_funct\_1 \\ & (k1\_funct\_4 X2 X1) X0 = k1\_funct\_1 X2 X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2\_xreal\_0 np\_2)\wedge(m2\_subset\_1 np\_2 k1\_numbers k5\_numbers))\wedge \\ & ((m1\_subset\_1 np\_2 k5\_numbers)\wedge(m1\_subset\_1 np\_2 k1\_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\neg v1\_xboole\_0 np\_2 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(\neg v1\_xboole\_0 X1))\Rightarrow \\ & ((r1\_subset\_1 X0 X1)\Leftrightarrow(r1\_xboole\_0 X0 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 \\ & X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 \\ & X2 X0))\Rightarrow(k8\_funcop\_1 X0 X1 X2 = k2\_funcop\_1 X1 X2) \end{aligned} \quad (10)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (11)$$

Assume the following.

$$k3\_scmfsa\_1 = k1\_scmfsa\_i \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & (((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))))\wedge(m1\_subset\_1 X3 X0)))\Rightarrow(k3\_funct\_2 X0 \\ & X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow( \\ & k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \end{aligned} \quad (14)$$

Assume the following.

$$r1\_subset\_1 \ k3\_scmfsa\_1 \ k1\_ami\_2 \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 \ (k2\_zfmisc\_1 \ X0 \ X1) \quad (16)$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k4\_ordinal1) \wedge (v3\_ordinal1 \ k4\_ordinal1) \quad (17)$$

Assume the following.

$$v1\_xboole\_0 \ k1\_xboole\_0 \quad (18)$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_scmfsa\_i \quad (19)$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_scmfsa\_1 \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 \ (k2\_funcop\_1 \ X0 \ X1)) \wedge (v1\_funct\_1 \ (k2\_funcop\_1 \ X0 \ X1)) \quad (21)$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_ami\_2 \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 \ X0) \wedge ((\neg v1\_xboole\_0 \ X1) \wedge (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \ X2 \ X0 \ X1) \Rightarrow (m1\_subset\_1 \ X2 \ X0)) \quad (23)$$

Assume the following.

$$(v1\_funct\_1 \ k4\_scmfsa\_1) \wedge ((v1\_funct\_2 \ k4\_scmfsa\_1 \ k1\_scmfsa\_1 \ np\_3) \wedge (m1\_subset\_1 \ k4\_scmfsa\_1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k1\_scmfsa\_1 \ np\_3)))) \quad (24)$$

Assume the following.

$$m1\_subset\_1 \ k3\_scmfsa\_1 \ (k1\_zfmisc\_1 \ k1\_scmfsa\_1) \quad (25)$$

Assume the following.

$$(v1\_funct\_1 \ k3\_ami\_2) \wedge ((v1\_funct\_2 \ k3\_ami\_2 \ k1\_ami\_2 \ np\_2) \wedge (m1\_subset\_1 \ k3\_ami\_2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k1\_ami\_2 \ np\_2)))) \quad (26)$$

Assume the following.

$$k4\_scmf\_sa\_1 = k1\_funct\_4 (k8\_funcop\_1 k5\_numbers k1\_scmf\_sa\_1 \quad np\_2) k3\_ami\_2 \quad (27)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow (((X1 \neq k1\_xboole\_0) \Rightarrow ((v1\_funct\_2 X2 X0 \\ & X1) \Leftrightarrow (X0 = k1\_relset\_1 X0 X2))) \wedge ((X1 = k1\_xboole\_0) \Rightarrow ((v1\_funct\_2 \\ & X2 X0 X1) \Leftrightarrow (X2 = k1\_xboole\_0)))) \end{aligned} \quad (28)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \quad (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \quad (29)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \quad X0)) \Rightarrow (v1\_relat\_1 X1)) \quad (30)$$

**Theorem 1**

$$\forall X0. (m2\_subset\_1 X0 k1\_scmf\_sa\_1 k3\_scmf\_sa\_1) \Rightarrow (k3\_funct\_2 \quad k1\_scmf\_sa\_1 np\_3 k4\_scmf\_sa\_1 X0 = np\_2)$$