

t38\_mesfun9c (TM-  
SYg9md79rRgHoiAok1YJ8MJMxBdmz9TeG)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_prob\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_prob\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  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  $k5\_numbers : \iota$  be given. Let  $k4\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_numbers : \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_mesfun6c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_mesfun9c : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k2\_mesfun9c : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_comseq\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_comseq\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_mesfunc6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k3\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k2\_numbers)) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k2\_numbers)))))) \Rightarrow \\ & ((r2\_funct\_2 k5\_numbers (k4\_partfun1 X0 k1\_numbers) (k2\_mesfun9c \\ & X0 (k11\_mesfun7c X0 X1)) (k11\_mesfun7c X0 (k3\_mesfun9c X0 X1))) \wedge \\ & (r2\_funct\_2 k5\_numbers (k4\_partfun1 X0 k1\_numbers) (k2\_mesfun9c \\ & X0 (k12\_mesfun7c X0 X1)) (k12\_mesfun7c X0 (k3\_mesfun9c X0 X1)))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge \\
& (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k2\_numbers)) \wedge (m1\_subset\_1 \\
& X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k2\_numbers)))))) \Rightarrow \\
& (\forall X2.(v7\_ordinal1 X2) \Rightarrow ((r2\_relset\_1 X0 k1\_numbers (k4\_mesfunc5 \\
& X0 k1\_numbers (k11\_mesfun7c X0 X1) X2) (k5\_comseq\_3 X0 (k4\_mesfunc5 \\
& X0 k2\_numbers X1 X2))) \wedge (r2\_relset\_1 X0 k1\_numbers (k4\_mesfunc5 \\
& X0 k1\_numbers (k12\_mesfun7c X0 X1) X2) (k6\_comseq\_3 X0 (k4\_mesfunc5 \\
& X0 k2\_numbers X1 X2))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
& ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 X1) \Rightarrow (\forall X3. \\
& ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 k5\_numbers (k4\_partfun1 X0 k1\_numbers)) \wedge \\
& (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\
& X0 k1\_numbers)))))) \Rightarrow (\forall X4.(v7\_ordinal1 X4) \Rightarrow ((\forall X5. \\
& (v7\_ordinal1 X5) \Rightarrow (r1\_mesfunc6 X0 X1 (k4\_mesfunc5 X0 k1\_numbers \\
& X3 X5) X2)) \Rightarrow (r1\_mesfunc6 X0 X1 (k4\_mesfunc5 X0 k1\_numbers (k2\_mesfun9c \\
& X0 X3) X4) X2))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1 X2 \\
& (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((r2\_relset\_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2) \wedge \\
& ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 X1)))))) \wedge ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 \\
& X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow ((r2\_funct\_2 X0 X1 X2 \\
& X3) \Leftrightarrow (X2 = X3))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\
& X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1))
\end{aligned} \tag{8}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{9}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2)\wedge \\ & ((v1\_funct\_2 X2 k5\_numbers (k3\_rfunct\_3 X0 X1))\wedge(m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k3\_rfunct\_3 X0 X1))))))\wedge \\ & (v7\_ordinal1 X3))\Rightarrow(k4\_mesfunc5 X0 X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k3\_rfunct\_3 X0 X1 = k4\_partfun1 X0 X1 \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((\neg v1\_xboole\_0 X1)\wedge \\ & ((v1\_prob\_1 X1 X0)\wedge((v4\_prob\_1 X1 X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 X0))))))\Rightarrow(\forall X2.(m1\_subset\_1 X2 X1)\Rightarrow(\forall X3. \\ & (v7\_ordinal1 X3)\Rightarrow(\forall X4.((v1\_funct\_1 X4)\wedge((v1\_funct\_2 \\ & X4 k5\_numbers (k4\_partfun1 X0 k2\_numbers))\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k2\_numbers))))))\Rightarrow(( \\ & \forall X5.(v7\_ordinal1 X5)\Rightarrow(r1\_mesfun6c X0 X1 (k4\_mesfunc5 X0 \\ & k2\_numbers X4 X5) X2)\Rightarrow((r1\_mesfunc6 X0 X1 (k4\_mesfunc5 X0 k1\_numbers \\ & (k11\_mesfun7c X0 X4) X3) X2)\wedge(r1\_mesfunc6 X0 X1 (k4\_mesfunc5 X0 \\ & k1\_numbers (k12\_mesfun7c X0 X4) X3) X2)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 k2\_numbers))))\Rightarrow((v1\_funct\_1 (k6\_comseq\_3 X0 \\ & X1))\wedge(m1\_subset\_1 (k6\_comseq\_3 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 k1\_numbers)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 k2\_numbers))))\Rightarrow((v1\_funct\_1 (k5\_comseq\_3 X0 \\ & X1))\wedge(m1\_subset\_1 (k5\_comseq\_3 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 k1\_numbers)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2)\wedge \\ & ((v1\_funct\_2 X2 k5\_numbers (k3\_rfunct\_3 X0 X1))\wedge(m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k3\_rfunct\_3 X0 X1))))))\wedge \\ & (v7\_ordinal1 X3))\Rightarrow((v1\_funct\_1 (k4\_mesfunc5 X0 X1 X2 X3))\wedge(m1\_subset\_1 \\ & (k4\_mesfunc5 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k2\_numbers))\wedge(m1\_subset\_1 \\ X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k2\_numbers))))))\Rightarrow \\ & ((v1\_funct\_1 (k3\_mesfun9c X0 X1))\wedge((v1\_funct\_2 (k3\_mesfun9c \\ X0 X1) k5\_numbers (k4\_partfun1 X0 k2\_numbers))\wedge(m1\_subset\_1 ( \\ k3\_mesfun9c X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ X0 k2\_numbers)))))) \end{aligned} \tag{16}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 \\ X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))))))\Rightarrow \\ & ((v1\_funct\_1 (k2\_mesfun9c X0 X1))\wedge((v1\_funct\_2 (k2\_mesfun9c \\ X0 X1) k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 ( \\ k2\_mesfun9c X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ X0 k1\_numbers)))))) \end{aligned} \tag{17}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k2\_numbers))\wedge(m1\_subset\_1 \\ X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k2\_numbers))))))\Rightarrow \\ & ((v1\_funct\_1 (k12\_mesfun7c X0 X1))\wedge((v1\_funct\_2 (k12\_mesfun7c \\ X0 X1) k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 ( \\ k12\_mesfun7c X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ X0 k1\_numbers)))))) \end{aligned} \tag{18}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k2\_numbers))\wedge(m1\_subset\_1 \\ X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k2\_numbers))))))\Rightarrow \\ & ((v1\_funct\_1 (k11\_mesfun7c X0 X1))\wedge((v1\_funct\_2 (k11\_mesfun7c \\ X0 X1) k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 ( \\ k11\_mesfun7c X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ X0 k1\_numbers)))))) \end{aligned} \tag{19}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
& ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers)))) \Rightarrow (\forall X3.( \\
& m2\_subset\_1 X3 (k1\_zfmisc\_1 X0) X1) \Rightarrow ((r1\_mesfun6c X0 X1 X2 X3) \Leftrightarrow \\
& ((r1\_mesfunc6 X0 X1 (k5\_comseq\_3 X0 X2) X3) \wedge (r1\_mesfunc6 X0 X1 ( \\
& k6\_comseq\_3 X0 X2) X3))))))
\end{aligned} \tag{20}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
& ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 X1) \Rightarrow (\forall X3. \\
& (v7\_ordinal1 X3) \Rightarrow (\forall X4.((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 \\
& X4 k5\_numbers (k4\_partfun1 X0 k2\_numbers)) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k2\_numbers)))))) \Rightarrow (( \\
& \forall X5.(v7\_ordinal1 X5) \Rightarrow (r1\_mesfun6c X0 X1 (k4\_mesfunc5 X0 \\
& k2\_numbers X4 X5) X2)) \Rightarrow (r1\_mesfun6c X0 X1 (k4\_mesfunc5 X0 k2\_numbers \\
& (k3\_mesfun9c X0 X4) X3) X2))))))
\end{aligned}$$