

# t8\_mesfun9c (TMRocNwAqvW- PQjtKQny8HcakqLLyMgtFeYG)

October 27, 2020

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  $k5\_numbers : \iota$  be given. Let  $k4\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_mesfun9c : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_numbers : \iota$  be given. Let  $k4\_mesfunc9 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$  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.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)))))) \Rightarrow \\ & (r2\_funct\_2 k5\_numbers (k4\_partfun1 X0 k7\_numbers) (k4\_mesfunc9 \\ & X0 (k1\_mesfun7c X0 X1)) (k1\_mesfun7c X0 (k2\_mesfun9c X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k7\_numbers)) \wedge (m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k7\_numbers)))))) \Rightarrow \\ & (\forall X2. (v7\_ordinal1 X2) \Rightarrow (\forall X3. (v7\_ordinal1 X3) \Rightarrow ( \\ & \forall X4. ((X4 \in k1\_relset\_1 X0 (k4\_mesfunc5 X0 k7\_numbers (k4\_mesfunc9 \\ & X0 X1) X2)) \wedge (r1\_xxreal\_0 X3 X2)) \Rightarrow ((X4 \in k1\_relset\_1 X0 (k4\_mesfunc5 \\ & X0 k7\_numbers (k4\_mesfunc9 X0 X1) X3)) \wedge (X4 \in k1\_relset\_1 X0 (k4\_mesfunc5 \\ & X0 k7\_numbers X1 X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2)\wedge \\ & ((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1))))))\wedge((v1\_funct\_1 X3)\wedge((v1\_funct\_2 X3 X0 X1)\wedge(m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))))\Rightarrow((r2\_funct\_2 X0 X1 X2 \\ & X3)\Leftrightarrow(X2 = X3)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2)\wedge \\ & ((v1\_funct\_2 X2 k5\_numbers (k3\_rfunc\_3 X0 X1)\wedge(m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k3\_rfunc\_3 X0 X1))))))\wedge \\ & (v7\_ordinal1 X3))\Rightarrow(k4\_mesfunc5 X0 X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.k3\_rfunc\_3 X0 X1 = k4\_partfun1 X0 X1 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k7\_numbers))\wedge(m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k7\_numbers))))))\Rightarrow \\ & ((v1\_funct\_1 (k4\_mesfunc9 X0 X1))\wedge((v1\_funct\_2 (k4\_mesfunc9 \\ & X0 X1) k5\_numbers (k4\_partfun1 X0 k7\_numbers))\wedge(m1\_subset\_1 ( \\ & k4\_mesfunc9 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ & X0 k7\_numbers)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))))))\Rightarrow \\ & ((v1\_funct\_1 (k2\_mesfun9c X0 X1))\wedge((v1\_funct\_2 (k2\_mesfun9c \\ & X0 X1) k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 ( \\ & k2\_mesfun9c X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ & X0 k1\_numbers)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge( \\ & (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))\wedge(m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers))))))\Rightarrow \\ & ((v1\_funct\_1 (k1\_mesfun7c X0 X1))\wedge((v1\_funct\_2 (k1\_mesfun7c \\ & X0 X1) k5\_numbers (k4\_partfun1 X0 k7\_numbers))\wedge(m1\_subset\_1 ( \\ & k1\_mesfun7c X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 \\ & X0 k7\_numbers)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ (v1\_funct\_2 X1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)) \wedge (m1\_subset\_1 \\ X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 k1\_numbers)))))) \Rightarrow \\ (k1\_mesfun7c X0 X1 = X1)) \end{aligned} \tag{9}$$

**Theorem 1**

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