

t2\_mesfun9c (TMT-  
FZBrXSwaGjBzTM16DR5dYNWfG5Q3shba)

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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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_mesfunc8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_mesfun9c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k4\_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow (k9\_xtuple\_0 (k5\_relat\_1 X1 X0) = k3\_xboole\_0 (k9\_xtuple\_0 X1) X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((r2\_relset\_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (k3\_rfunct\_3 X0 X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k3\_rfunct\_3 X0 X1)))))) \wedge (v7\_ordinal1 X3)) \Rightarrow (k4\_mesfunc5 X0 X1 X2 X3 = k1\_funct\_1 X2 X3) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k3\_rfunct\_3 X0 X1 = k4\_partfun1 X0 X1 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1 X2)\wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow(k2\_partfun1 X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (6)$$

Assume the following.

$$\exists X0.v7\_ordinal1 X0 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2)\wedge ((v1\_funct\_2 X2 k5\_numbers (k3\_rfunct\_3 X0 X1))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k3\_rfunct\_3 X0 X1))))))\wedge (v7\_ordinal1 X3))\Rightarrow((v1\_funct\_1 (k4\_mesfunc5 X0 X1 X2 X3))\wedge(m1\_subset\_1 (k4\_mesfunc5 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1 X2)\wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow((v1\_funct\_1 (k2\_partfun1 X0 X1 X2 X3))\wedge(m1\_subset\_1 (k2\_partfun1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1 X2)\wedge ((v1\_funct\_2 X2 k5\_numbers (k4\_partfun1 X0 X1))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 X1))))))\Rightarrow((v1\_funct\_1 (k1\_mesfun9c X0 X1 X2 X3))\wedge((v1\_funct\_2 (k1\_mesfun9c X0 X1 X2 X3) k5\_numbers (k4\_partfun1 X0 X1))\wedge(m1\_subset\_1 (k1\_mesfun9c X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 X1)))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 k5\_numbers (k4\_partfun1 X0 X1))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 X1))))))\Rightarrow((v1\_mesfunc8 X2 X0 X1)\Leftrightarrow(\forall X3.(v7\_ordinal1 X3)\Rightarrow(\forall X4.(v7\_ordinal1 X4)\Rightarrow(k1\_relset\_1 X0 (k4\_mesfunc5 X0 X1 X2 X3) = k1\_relset\_1 X0 (k4\_mesfunc5 X0 X1 X2 X4)))) \quad (11)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\
& X2 k5\_numbers (k4\_partfun1 X0 X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 X1)))))) \Rightarrow (\forall X3. \\
& \forall X4. ((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 X4 k5\_numbers (k4\_partfun1 \\
& X0 X1)) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\
& (k4\_partfun1 X0 X1)))))) \Rightarrow ((X4 = k1\_mesfun9c X0 X1 X2 X3) \Leftrightarrow (\forall X5. \\
& (v7\_ordinal1 X5) \Rightarrow (r2\_relset\_1 X0 X1 (k4\_mesfunc5 X0 X1 X4 X5) (k2\_partfun1 \\
& X0 X1 (k4\_mesfunc5 X0 X1 X2 X5) X3))))))
\end{aligned} \tag{12}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \tag{13}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \tag{14}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X3) \wedge \\
& ((v1\_funct\_2 X3 k5\_numbers (k4\_partfun1 X0 X1)) \wedge (m1\_subset\_1 \\
& X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k4\_partfun1 X0 X1)))))) \Rightarrow \\
& ((v1\_mesfunc8 X3 X0 X1) \Rightarrow (v1\_mesfunc8 (k1\_mesfun9c X0 X1 X3 X2) X0 \\
& X1))
\end{aligned}$$