t9_mesfun9c (TMNur-CUNf86HqFW77Dpq87Cw5ZQGHrToZ98)

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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 $v2\_mesfunc9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1\_supinf\_1 : \iota$ be given. Let $k1\_xxreal\_0 : \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v2\_valued\_0 : \iota \Rightarrow o$ be given. Let $k1\_mesfunc9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_valued\_0 : \iota \Rightarrow o$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $k7\_numbers : \iota$ be given. Let $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_supinf\_1 : \iota$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ k5\_numbers\ (k3\_rfunct\_3\ X0\ X1)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k3\_rfunct\_3\ X0\ X1)))))) \wedge (v7\_ordinal1\ X3)) \Rightarrow (k4\_mesfunc5\ X0\ X1\ X2\ X3 = k1\_funct\_1\ X2\ X3) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.k3\_rfunct\_3\ X0\ X1 = k4\_partfun1\ X0\ X1 \tag{2}$$

Assume the following.

$$k1\_supinf\_1 = k1\_xxreal\_0 \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v2\_valued\_0\ X0))) \Rightarrow (k1\_mesfunc9\ X0\ X1 = k1\_funct\_1\ X0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v3\_valued\_0\ X0))) \Rightarrow (v1\_xreal\_0\ (k1\_funct\_1\ X0\ X1)) \tag{5}$$

Assume the following.

$$\neg v1\_xreal\_0\ k1\_xxreal\_0 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1\ X2)\wedge ((v1\_funct\_2\ X2\ k5\_numbers\ (k3\_rfunct\_3\ X0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k3\_rfunct\_3\ X0\ X1))))))\wedge (v7\_ordinal1\ X3))\Rightarrow((v1\_funct\_1\ (k4\_mesfunc5\ X0\ X1\ X2\ X3))\wedge(m1\_subset\_1\ (k4\_mesfunc5\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))) \tag{7}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))))))\Rightarrow((v2\_mesfunc9\ X1\ X0)\Leftrightarrow(\forall X2.(v7\_ordinal1\ X2)\Rightarrow(\forall X3.(v7\_ordinal1\ X3)\Rightarrow ((X2\neq X3)\Rightarrow(\forall X4.\neg(X4\in k9\_subset\_1\ X0\ (k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k7\_numbers\ X1\ X2))\ (k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k7\_numbers\ X1\ X3)))\wedge((k1\_mesfunc9\ (k4\_mesfunc5\ X0\ k7\_numbers\ X1\ X2)\ X4 = k1\_supinf\_1)\wedge (k1\_mesfunc9\ (k4\_mesfunc5\ X0\ k7\_numbers\ X1\ X3)\ X4 = k2\_supinf\_1))))))) \tag{9}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers)))))))\Rightarrow (k1\_mesfun7c\ X0\ X1 = X1)) \tag{10}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v2\_valued\_0\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v5\_relat\_1\ X0\ k1\_numbers))\Rightarrow((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0)) \tag{12}$$

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

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers))))))\Rightarrow(v2\_mesfunc9\ (k1\_mesfun7c\ X0\ X1)\ X0))$$