t28_mesfunc5 (TMczBakeHHbrfC96b3ZQaJ65oxpvcVbUWZW)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_numbers : \iota$ be given. Let $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_mesfunc2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_mesfunc2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v2\_valued\_0 : \iota \Rightarrow o$ be given. Let $k12\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_membered : \iota \Rightarrow o$ be given. Let $k1\_extreal2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_supinf\_2 : \iota \Rightarrow \iota$ be given. Let $k1\_supinf\_2 : \iota$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow ((X0 \in k9\_xtuple\_0\ (k5\_relat\_1\ X2\ X1)) \Rightarrow (k1\_funct\_1\ (k5\_relat\_1\ X2\ X1)\ X0 = k1\_funct\_1\ X2\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))) \Rightarrow ((r2\_relset\_1\ X0\ X1\ X2\ X3) \Leftrightarrow (X2 = X3)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))) \Rightarrow (k2\_partfun1\ X0\ X1\ X2\ X3 = k5\_relat\_1\ X2\ X3) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v4\_relat\_1\ X1\ X0))\Rightarrow(k1\_relset\_1\ X0\ X1 = k9\_xtuple\_0\ X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v2\_valued\_0\ X0)))\Rightarrow(k12\_supinf\_2\ X0\ X1 = k1\_funct\_1\ X0\ X1) \tag{6}$$

Assume the following.

$$v2\_membered\ k7\_numbers \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\Rightarrow((v1\_funct\_1\ (k2\_partfun1\ X0\ X1\ X2\ X3))\wedge(m1\_subset\_1\ (k2\_partfun1\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers)))))\Rightarrow((v1\_funct\_1\ (k2\_mesfunc2\ X0\ X1))\wedge(m1\_subset\_1\ (k2\_mesfunc2\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers)))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers)))))\Rightarrow((v1\_funct\_1\ (k1\_mesfunc2\ X0\ X1))\wedge(m1\_subset\_1\ (k1\_mesfunc2\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers)))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0\ X0\ X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \tag{11}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers))))\Rightarrow((X2 = k2\_mesfunc2\ X0\ X1)\Leftrightarrow((k1\_relset\_1\ X0\ X2 = k1\_relset\_1\ X0\ X1)\wedge(\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow((X3 \in k1\_relset\_1\ X0\ X2)\Rightarrow(k12\_supinf\_2\ X2\ X3 = k1\_extreal2\ (k2\_supinf\_2\ (k12\_supinf\_2\ X1\ X3))\ k1\_supinf\_2))))))) \tag{12}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers))))\Rightarrow((X2 = k1\_mesfunc2\ X0\ X1)\Leftrightarrow((k1\_relset\_1\ X0\ X2 = k1\_relset\_1\ X0\ X1)\wedge(\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow((X3 \in k1\_relset\_1\ X0\ X2)\Rightarrow(k12\_supinf\_2\ X2\ X3 = k1\_extreal2\ (k12\_supinf\_2\ X1\ X3)\ k1\_supinf\_2)))))))) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1)) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.(v2\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v2\_valued\_0\ X2)) \tag{16}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers))))\Rightarrow(\forall X2.(r2\_relset\_1\ X0\ k7\_numbers\ (k1\_mesfunc2\ X0\ (k2\_partfun1\ X0\ k7\_numbers\ X1\ X2))\ (k2\_partfun1\ X0\ k7\_numbers\ (k1\_mesfunc2\ X0\ X1)\ X2))\wedge(r2\_relset\_1\ X0\ k7\_numbers\ (k2\_mesfunc2\ X0\ (k2\_partfun1\ X0\ k7\_numbers\ X1\ X2))\ (k2\_partfun1\ X0\ k7\_numbers\ (k2\_mesfunc2\ X0\ X1)\ X2))))$$