t13_mesfunc8 (TMK-FiB8RbJWfKHra5VmtZvYrnwKF9wR36xp)

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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 $k7\_numbers : \iota$ 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 $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $v10\_mesfunc5 : \iota \Rightarrow o$ be given. Let $k3\_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_mesfunc8 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_mesfunc8 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_rinfsup2 : \iota \Rightarrow \iota$ be given. Let $k5\_rinfsup2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1\_funct\_1\ X0) \wedge ((v1\_funct\_2\ X0\ k5\_numbers\ k7\_numbers) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k7\_numbers))))) \Rightarrow ((v10\_mesfunc5\ X0) \Leftrightarrow (k6\_rinfsup2\ X0 = k5\_rinfsup2\ X0)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers)) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))))))) \Rightarrow ((v1\_funct\_1\ (k6\_mesfunc8\ X0\ X1)) \wedge (m1\_subset\_1\ (k6\_mesfunc8\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers)) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))))))) \Rightarrow ((v1\_funct\_1\ (k5\_mesfunc8\ X0\ X1)) \wedge (m1\_subset\_1\ (k5\_mesfunc8\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge(((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))))))\wedge(m1\_subset\_1\ X2\ X0)))\Rightarrow((v1\_funct\_1\ (k3\_mesfunc5\ X0\ X1\ X2))\wedge((v1\_funct\_2\ (k3\_mesfunc5\ X0\ X1\ X2)\ k5\_numbers\ k7\_numbers)\wedge(m1\_subset\_1\ (k3\_mesfunc5\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k7\_numbers)))))) \tag{4}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers))))\Rightarrow((X2 = k6\_mesfunc8\ X0\ X1)\Leftrightarrow((k1\_relset\_1\ X0\ X2 = k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k7\_numbers\ X1\ k6\_numbers))\wedge(\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow((X3 \in k1\_relset\_1\ X0\ X2)\Rightarrow(k12\_supinf\_2\ X2\ X3 = k5\_rinfsup2\ (k3\_mesfunc5\ X0\ X1\ X3)))))))) \tag{5}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k7\_numbers))))\Rightarrow((X2 = k5\_mesfunc8\ X0\ X1)\Leftrightarrow((k1\_relset\_1\ X0\ X2 = k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k7\_numbers\ X1\ k6\_numbers))\wedge(\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow((X3 \in k1\_relset\_1\ X0\ X2)\Rightarrow(k12\_supinf\_2\ X2\ X3 = k6\_rinfsup2\ (k3\_mesfunc5\ X0\ X1\ X3)))))))) \tag{6}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k7\_numbers))))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ X0)\Rightarrow((X2 \in k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k7\_numbers\ X1\ k6\_numbers))\Rightarrow((v10\_mesfunc5\ (k3\_mesfunc5\ X0\ X1\ X2))\Leftrightarrow(k12\_supinf\_2\ (k6\_mesfunc8\ X0\ X1)\ X2 = k12\_supinf\_2\ (k5\_mesfunc8\ X0\ X1)\ X2))))$$