t32_mesfun9c (TMEx4rvVvinq6MdbB2hTetKJ778Mcono5nm)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ 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 $k2\_numbers : \iota$ 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 $v1\_mesfunc8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_mesfun9c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k2\_mesfun9c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11\_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12\_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_comseq\_3 : \iota \Rightarrow \iota$ be given. Let $k9\_mesfun7c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers)) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers)))))) \Rightarrow ((r2\_funct\_2\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers)\ (k2\_mesfun9c\ X0\ (k11\_mesfun7c\ X0\ X1))\ (k11\_mesfun7c\ X0\ (k3\_mesfun9c\ X0\ X1))) \wedge (r2\_funct\_2\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers)\ (k2\_mesfun9c\ X0\ (k12\_mesfun7c\ X0\ X1))\ (k12\_mesfun7c\ X0\ (k3\_mesfun9c\ X0\ X1)))))) \tag{1}$$

Assume the following.

$$m1\_subset\_1\ k1\_xboole\_0\ k4\_ordinal1 \tag{2}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers)) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers)))))) \Rightarrow (\forall X2.(v7\_ordinal1\ X2) \Rightarrow ((v1\_mesfunc8\ X1\ X0\ k1\_numbers) \Rightarrow (k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k1\_numbers\ (k2\_mesfun9c\ X0\ X1)\ X2) = k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k1\_numbers\ X1\ k6\_numbers))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1\ X2)\wedge ((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ X0\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))\Rightarrow((r2\_funct\_2\ X0\ X1\ X2\ X3)\Leftrightarrow(X2 = X3)) \tag{4}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{5}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers))\wedge((v1\_mesfunc8\ X1\ X0\ k2\_numbers)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers))))))))\Rightarrow((v1\_funct\_1\ (k11\_mesfun7c\ X0\ X1))\wedge((v1\_funct\_2\ (k11\_mesfun7c\ X0\ X1)\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers))\wedge(v1\_mesfunc8\ (k11\_mesfun7c\ X0\ X1)\ X0\ k1\_numbers))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers)))))))\Rightarrow((v1\_funct\_1\ (k3\_mesfun9c\ X0\ X1))\wedge((v1\_funct\_2\ (k3\_mesfun9c\ X0\ X1)\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers))\wedge(m1\_subset\_1\ (k3\_mesfun9c\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers))))))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers)))))))\Rightarrow((v1\_funct\_1\ (k2\_mesfun9c\ X0\ X1))\wedge((v1\_funct\_2\ (k2\_mesfun9c\ X0\ X1)\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ (k2\_mesfun9c\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers))))))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers)))))))\Rightarrow((v1\_funct\_1\ (k11\_mesfun7c\ X0\ X1))\wedge((v1\_funct\_2\ (k11\_mesfun7c\ X0\ X1)\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ (k11\_mesfun7c\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers))))))) \tag{10}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers)))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k1\_numbers))))))\Rightarrow((X2 = k11\_mesfun7c\ X0\ X1)\Leftrightarrow(\forall X3.(v7\_ordinal1\ X3)\Rightarrow((k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k1\_numbers\ X2\ X3) = k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k2\_numbers\ X1\ X3))\wedge(\forall X4.(m1\_subset\_1\ X4\ X0)\Rightarrow((X4 \in k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k1\_numbers\ X2\ X3))\Rightarrow(k1\_seq\_1\ (k4\_mesfunc5\ X0\ k1\_numbers\ X2\ X3)\ X4 = k1\_seq\_1\ (k7\_comseq\_3\ (k9\_mesfun7c\ X0\ X1\ X4))\ X3)))))))) \tag{11}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \tag{12}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (k4\_partfun1\ X0\ k2\_numbers))))))\Rightarrow((v1\_mesfunc8\ X2\ X0\ k2\_numbers)\Rightarrow(k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k2\_numbers\ (k3\_mesfun9c\ X0\ X2)\ X1) = k1\_relset\_1\ X0\ (k4\_mesfunc5\ X0\ k2\_numbers\ X2\ k6\_numbers)))))$$