t11_fuzzy_4 (TMZB5W3pDsLobrj74vuWDLxMTfeRwsC97JK)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $np\_\_1 : \iota$ 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 $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_fuzzy\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_fuzzy\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_fuzzy\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_fuzzy\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.((v5\_relat\_1\ X2\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1)) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers)))))) \Rightarrow (\forall X3.((v5\_relat\_1\ X3\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1)) \wedge ((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers))))))) \Rightarrow (r2\_relset\_1\ (k2\_zfmisc\_1\ X1\ X0)\ k1\_numbers\ (k2\_fuzzy\_4\ X1\ X0\ (k1\_fuzzy\_1\ (k2\_zfmisc\_1\ X0\ X1)\ X2\ X3))\ (k1\_fuzzy\_1\ (k2\_zfmisc\_1\ X1\ X0)\ (k2\_fuzzy\_4\ X1\ X0\ X2)\ (k2\_fuzzy\_4\ X1\ X0\ X3)))))) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.((v5\_relat\_1\ X2\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1)) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers)))))) \Rightarrow (r2\_relset\_1\ (k2\_zfmisc\_1\ X1\ X0)\ k1\_numbers\ (k3\_fuzzy\_1\ (k2\_zfmisc\_1\ X1\ X0)\ (k2\_fuzzy\_4\ X1\ X0\ X2))\ (k2\_fuzzy\_4\ X1\ X0\ (k3\_fuzzy\_1\ (k2\_zfmisc\_1\ X0\ X1)\ X2))))) \tag{2}$$

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.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge(\neg v1\_xboole\_0\ X1))\Rightarrow(\neg v1\_xboole\_0\ (k2\_zfmisc\_1\ X0\ X1)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((v5\_relat\_1\ X1\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ X0\ k1\_numbers)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))))))\Rightarrow((v5\_relat\_1\ (k3\_fuzzy\_1\ X0\ X1)\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ (k3\_fuzzy\_1\ X0\ X1))\wedge((v1\_funct\_2\ (k3\_fuzzy\_1\ X0\ X1)\ X0\ k1\_numbers)\wedge(m1\_subset\_1\ (k3\_fuzzy\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge((v5\_relat\_1\ X2\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X1\ X0)\ k1\_numbers)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X0)\ k1\_numbers))))))))\Rightarrow((v5\_relat\_1\ (k2\_fuzzy\_4\ X0\ X1\ X2)\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ (k2\_fuzzy\_4\ X0\ X1\ X2))\wedge((v1\_funct\_2\ (k2\_fuzzy\_4\ X0\ X1\ X2)\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers)\wedge(m1\_subset\_1\ (k2\_fuzzy\_4\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers))))))) \tag{6}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v5\_relat\_1\ X1\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ X0\ k1\_numbers)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))))\Rightarrow(\forall X2.((v5\_relat\_1\ X2\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ k1\_numbers)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))))\Rightarrow(k1\_fuzzy\_2\ X0\ X1\ X2 = k1\_fuzzy\_1\ X0\ X1\ (k3\_fuzzy\_1\ X0\ X2)))) \tag{7}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow (\forall X2.((v5\_relat\_1\ X2\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers)\wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1) k1\_numbers))))))\Rightarrow(\forall X3.((v5\_relat\_1\ X3\ (k1\_rcomp\_1\ k6\_numbers np\_\_1))\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X0\ X1) k1\_numbers)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1 X0\ X1)\ k1\_numbers))))))\Rightarrow(r2\_relset\_1\ (k2\_zfmisc\_1\ X1\ X0)\ k1\_numbers (k2\_fuzzy\_4\ X1\ X0\ (k1\_fuzzy\_2\ (k2\_zfmisc\_1\ X0\ X1)\ X2\ X3))\ (k1\_fuzzy\_2 (k2\_zfmisc\_1\ X1\ X0)\ (k2\_fuzzy\_4\ X1\ X0\ X2)\ (k2\_fuzzy\_4\ X1\ X0\ X3))))))$$