t24_fuzzy_4 (TMSuswvLQtBSAAAz-zVg24nxmNPbZpTRx2Wv)

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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 $k4\_fuzzy\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_fuzzy\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.(\neg v1\_xboole\_0\ X2) \Rightarrow (\forall X3.((v5\_relat\_1\ X3\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1)) \wedge ((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers))))))) \Rightarrow (r2\_relset\_1\ (k2\_zfmisc\_1\ X0\ X2)\ k1\_numbers\ (k4\_fuzzy\_4\ X0\ X1\ X2\ X3\ (k4\_fuzzy\_2\ X1\ X2))\ (k4\_fuzzy\_2\ X0\ X2)))))) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.(\neg v1\_xboole\_0\ X2) \Rightarrow (\forall X3.((v5\_relat\_1\ X3\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1)) \wedge ((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers))))))) \Rightarrow (r2\_relset\_1\ (k2\_zfmisc\_1\ X2\ X1)\ k1\_numbers\ (k4\_fuzzy\_4\ X2\ X0\ X1\ (k4\_fuzzy\_2\ X2\ X0)\ X3)\ (k4\_fuzzy\_2\ X2\ X1)))))) \tag{2}$$

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.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge((\neg v1\_xboole\_0\ X2)\wedge(((v5\_relat\_1\ X3\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers))))))\wedge((v5\_relat\_1\ X4\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ X1\ X2)\ k1\_numbers)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X2)\ k1\_numbers))))))))))\Rightarrow((v5\_relat\_1\ (k4\_fuzzy\_4\ X0\ X1\ X2\ X3\ X4)\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ (k4\_fuzzy\_4\ X0\ X1\ X2\ X3\ X4))\wedge((v1\_funct\_2\ (k4\_fuzzy\_4\ X0\ X1\ X2\ X3\ X4)\ (k2\_zfmisc\_1\ X0\ X2)\ k1\_numbers)\wedge(m1\_subset\_1\ (k4\_fuzzy\_4\ X0\ X1\ X2\ X3\ X4)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X2)\ k1\_numbers))))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge(\neg v1\_xboole\_0\ X1))\Rightarrow((v5\_relat\_1\ (k4\_fuzzy\_2\ X0\ X1)\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ (k4\_fuzzy\_2\ X0\ X1))\wedge((v1\_funct\_2\ (k4\_fuzzy\_2\ X0\ X1)\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers)\wedge(m1\_subset\_1\ (k4\_fuzzy\_2\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers))))))) \tag{5}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v5\_relat\_1\ X1\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ k1\_numbers)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ k1\_numbers))))))\Rightarrow(r2\_relset\_1\ (k2\_zfmisc\_1\ X0\ X0)\ k1\_numbers\ (k4\_fuzzy\_4\ X0\ X0\ X0\ X1\ (k4\_fuzzy\_2\ X0\ X0))\ (k4\_fuzzy\_4\ X0\ X0\ X0\ (k4\_fuzzy\_2\ X0\ X0)\ X1)))$$