# t12_fuzzy_1 (TMdHiaRKY9GpY4HVjV4V6v59RcodLJBrdS2)

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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 $k7\_rfunct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ 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 $k1\_numbers : \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.k7\_rfunct\_1\ X0\ X1 = k4\_funct\_3\ X0\ X1 \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_funct\_1\ (k4\_funct\_3\ X0\ X1))\wedge(v1\_partfun1\ (k4\_funct\_3\ X0\ X1)\ X1) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ (k4\_funct\_3\ X0\ X1))\wedge((v5\_relat\_1\ (k4\_funct\_3\ X0\ X1)\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1))\wedge(v1\_funct\_1\ (k4\_funct\_3\ X0\ X1))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_funct\_1\ (k7\_rfunct\_1\ X0\ X1))\wedge(m1\_subset\_1\ (k7\_rfunct\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ k1\_numbers))) \tag{4}$$

Assume the following.

$$k1\_xboole\_0 = the\ (\lambda X0 : \iota.v1\_xboole\_0\ X0) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v1\_partfun1\ X2\ X0)\Rightarrow(v1\_funct\_2\ X2\ X0\ X1)) \tag{6}$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow ((v5\_relat\_1\ (k7\_rfunct\_1\ k1\_xboole\_0\ X0)\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1)) \wedge ((v1\_funct\_1\ (k7\_rfunct\_1\ k1\_xboole\_0\ X0)) \wedge ((v1\_funct\_2\ (k7\_rfunct\_1\ k1\_xboole\_0\ X0)\ X0\ k1\_numbers) \wedge (m1\_subset\_1\ (k7\_rfunct\_1\ k1\_xboole\_0\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))))$$