t53_fuzzy_2 (TMJCVka97GhUL6fN1xJXqzPGGCkWyvEhewM)

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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 $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_fuzzy\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_fuzzy\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_fuzzy\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_fuzzy\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_fuzzy\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_fuzzy\_1 : \iota \Rightarrow \iota$ be given. Let $k7\_rfunct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v5\_relat\_1\ X1\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1)) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ X0\ k1\_numbers) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))))) \Rightarrow ((r2\_funct\_2\ X0\ k1\_numbers\ (k2\_fuzzy\_1\ X0\ X1\ (k5\_fuzzy\_1\ X0))\ (k5\_fuzzy\_1\ X0)) \wedge ((r2\_funct\_2\ X0\ k1\_numbers\ (k1\_fuzzy\_1\ X0\ X1\ (k5\_fuzzy\_1\ X0))\ X1) \wedge ((r2\_funct\_2\ X0\ k1\_numbers\ (k2\_fuzzy\_1\ X0\ X1\ (k4\_fuzzy\_1\ X0))\ X1) \wedge (r2\_funct\_2\ X0\ k1\_numbers\ (k1\_fuzzy\_1\ X0\ X1\ (k4\_fuzzy\_1\ X0))\ (k4\_fuzzy\_1\ X0))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.k7\_rfunct\_1\ X0\ X1 = k4\_funct\_3\ X0\ X1 \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.k5\_funct\_3\ X0\ X1 = k4\_funct\_3\ X0\ X1 \tag{3}$$

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.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (k5\_fuzzy\_1\ X0 = k7\_rfunct\_1\ X0\ X0) \tag{5}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (k4\_fuzzy\_1\ X0 = k7\_rfunct\_1\ k1\_xboole\_0\ X0) \tag{6}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (k5\_fuzzy\_2\ X0\ X1 = k5\_funct\_3\ (k2\_zfmisc\_1\ X0\ X1)\ (k2\_zfmisc\_1\ X0\ X1))) \tag{7}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (k4\_fuzzy\_2\ X0\ X1 = k5\_funct\_3\ k1\_xboole\_0\ (k2\_zfmisc\_1\ X0\ X1))) \tag{8}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.((v5\_relat\_1\ X2\ (k1\_rcomp\_1\ k6\_numbers\ np\_\_1)) \wedge (v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers)))))) \Rightarrow ((r2\_funct\_2\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers\ (k2\_fuzzy\_1\ (k2\_zfmisc\_1\ X0\ X1)\ X2\ (k5\_fuzzy\_2\ X0\ X1))\ (k5\_fuzzy\_2\ X0\ X1)) \wedge ((r2\_funct\_2\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers\ (k1\_fuzzy\_1\ (k2\_zfmisc\_1\ X0\ X1)\ X2\ (k5\_fuzzy\_2\ X0\ X1))\ X2) \wedge ((r2\_funct\_2\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers\ (k2\_fuzzy\_1\ (k2\_zfmisc\_1\ X0\ X1)\ X2\ (k4\_fuzzy\_2\ X0\ X1))\ X2) \wedge (r2\_funct\_2\ (k2\_zfmisc\_1\ X0\ X1)\ k1\_numbers\ (k1\_fuzzy\_1\ (k2\_zfmisc\_1\ X0\ X1)\ X2\ (k4\_fuzzy\_2\ X0\ X1))\ (k4\_fuzzy\_2\ X0\ X1)))))))$$