

## t10\_lfuzzy\_1

(TMcu32vLf2iY86aTNe4msWFgN2iGHmxzSZX)

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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  $v2\_lfuzzy\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k2\_lfuzzy\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_fuzzy\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((r2\_relset\_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge (((v5\_relat\_1 \\ & X1 (k1\_rcomp\_1 k6\_numbers np\_1)) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\ & X1 X0 k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 \\ & k1\_numbers)))))) \wedge ((v5\_relat\_1 X2 (k1\_rcomp\_1 k6\_numbers np\_1)) \wedge \\ & ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 k1\_numbers) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers))))))))) \Rightarrow (k2\_lfuzzy\_1 \\ & X0 X1 X2 = k2\_fuzzy\_1 X0 X1 X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge (\neg v1\_xboole\_0 X1)) \Rightarrow \\ & (\neg v1\_xboole\_0 (k2\_zfmisc\_1 X0 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 \\ & X1) \wedge ((v5\_relat\_1 X2 (k1\_rcomp\_1 k6\_numbers np\_1)) \wedge ((v1\_funct\_1 \\ & X2) \wedge ((v1\_funct\_2 X2 (k2\_zfmisc\_1 X1 X0) k1\_numbers) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0) k1\_numbers))))))))) \Rightarrow \\ & ((v5\_relat\_1 (k2\_fuzzy\_4 X0 X1 X2) (k1\_rcomp\_1 k6\_numbers np\_1)) \wedge \\ & ((v1\_funct\_1 (k2\_fuzzy\_4 X0 X1 X2)) \wedge ((v1\_funct\_2 (k2\_fuzzy\_4 \\ & X0 X1 X2) (k2\_zfmisc\_1 X0 X1) k1\_numbers) \wedge (m1\_subset\_1 (k2\_fuzzy\_4 \\ & X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1) k1\_numbers))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v5\_relat\_1 X1 (k1\_rcomp\_1 \\ & k6\_numbers np\_1)) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (k2\_zfmisc\_1 \\ & X0 X0) k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X0) k1\_numbers)))))) \Rightarrow ((v2\_lfuzzy\_1 X1 X0) \Leftrightarrow (r2\_relset\_1 \\ & (k2\_zfmisc\_1 X0 X0) k1\_numbers (k2\_fuzzy\_4 X0 X0 X1) X1))) \end{aligned} \quad (6)$$

### Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v5\_relat\_1 X1 (k1\_rcomp\_1 \\ & k6\_numbers np\_1)) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (k2\_zfmisc\_1 \\ & X0 X0) k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X0) k1\_numbers)))))) \Rightarrow (\forall X2. ((v5\_relat\_1 \\ & X2 (k1\_rcomp\_1 k6\_numbers np\_1)) \wedge ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\ & X2 (k2\_zfmisc\_1 X0 X0) k1\_numbers) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) k1\_numbers)))))) \Rightarrow (((v2\_lfuzzy\_1 \\ & X1 X0) \wedge (v2\_lfuzzy\_1 X2 X0)) \Rightarrow (r2\_relset\_1 (k2\_zfmisc\_1 X0 X0) k1\_numbers \\ & (k2\_fuzzy\_4 X0 X0 (k2\_lfuzzy\_1 (k2\_zfmisc\_1 X0 X0) X1 X2)) (k2\_lfuzzy\_1 \\ & (k2\_zfmisc\_1 X0 X0) X1 X2)))))) \end{aligned}$$