

## t40\_fuzzy\_1

(TMW3pJy9NKwUDdnbgNVD8xcdPVE6j9Ynq2V)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k3\_fuzzy\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_fuzzy\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_fuzzy\_1 : \iota \Rightarrow \iota$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_fuzzy\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v5\_relat\_1 X1 (k1\_rcomp\_1 \\
 & k6\_numbers np\_1)) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 X0 k1\_numbers) \wedge \\
 & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))))) \Rightarrow \\
 & (\forall X2. ((v5\_relat\_1 X2 (k1\_rcomp\_1 k6\_numbers np\_1)) \wedge ( \\
 & (v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 k1\_numbers) \wedge (m1\_subset\_1 \\
 & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))))) \Rightarrow ((r1\_fuzzy\_1 \\
 & X1 X2) \Leftrightarrow (r1\_fuzzy\_1 (k3\_fuzzy\_1 X0 X2) (k3\_fuzzy\_1 X0 X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v5\_relat\_1 X1 (k1\_rcomp\_1 \\
 & k6\_numbers np\_1)) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 X0 k1\_numbers) \wedge \\
 & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))))) \Rightarrow \\
 & ((r1\_fuzzy\_1 X1 (k4\_fuzzy\_1 X0)) \Rightarrow (r2\_funct\_2 X0 k1\_numbers X1 \\
 & (k4\_fuzzy\_1 X0)))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v5\_relat\_1 X1 (k1\_rcomp\_1 \\
 & k6\_numbers np\_1)) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 X0 k1\_numbers) \wedge \\
 & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))))) \Rightarrow \\
 & (r1\_fuzzy\_1 X1 (k5\_fuzzy\_1 X0))
 \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1\_funct\_1 X2) \wedge \\ & ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \wedge ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow ((r2\_funct\_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (4)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((v5\_relat\_1 (k5\_fuzzy\_1 X0) (k1\_rcomp\_1 \\ & k6\_numbers np\_1)) \wedge ((v1\_funct\_1 (k5\_fuzzy\_1 X0)) \wedge ((v1\_funct\_2 \\ & (k5\_fuzzy\_1 X0) X0 k1\_numbers) \wedge (m1\_subset\_1 (k5\_fuzzy\_1 X0) ( \\ & k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((v5\_relat\_1 (k4\_fuzzy\_1 X0) (k1\_rcomp\_1 \\ & k6\_numbers np\_1)) \wedge ((v1\_funct\_1 (k4\_fuzzy\_1 X0)) \wedge ((v1\_funct\_2 \\ & (k4\_fuzzy\_1 X0) X0 k1\_numbers) \wedge (m1\_subset\_1 (k4\_fuzzy\_1 X0) ( \\ & k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((v5\_relat\_1 X1 (k1\_rcomp\_1 \\ & k6\_numbers np\_1)) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 X0 k1\_numbers) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))))) \Rightarrow \\ & ((v5\_relat\_1 (k3\_fuzzy\_1 X0 X1) (k1\_rcomp\_1 k6\_numbers np\_1)) \wedge \\ & ((v1\_funct\_1 (k3\_fuzzy\_1 X0 X1)) \wedge ((v1\_funct\_2 (k3\_fuzzy\_1 X0 \\ & X1) X0 k1\_numbers) \wedge (m1\_subset\_1 (k3\_fuzzy\_1 X0 X1) (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 k1\_numbers)))))) \end{aligned} \quad (8)$$

### Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((r2\_funct\_2 X0 k1\_numbers (k3\_fuzzy\_1 \\ & X0 (k4\_fuzzy\_1 X0)) (k5\_fuzzy\_1 X0)) \wedge (r2\_funct\_2 X0 k1\_numbers \\ & (k3\_fuzzy\_1 X0 (k5\_fuzzy\_1 X0)) (k4\_fuzzy\_1 X0))) \end{aligned}$$