

# t4\_cfdiff\_1 (TMMxsWXbKFJXYDCLsP- sKxmgcdzGqNAXfhpJ)

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Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k2\_numbers : \iota$  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  $v3\_funct\_1 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_comseq\_2 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (((v1\_funct\_1 \\ & X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge (m1\_subset\_1 X0 ( \\ & k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k2\_numbers)))))) \Leftrightarrow ((k9\_xtuple\_0 \\ & X0 = k5\_numbers) \wedge (\forall X1. (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow \\ & (m1\_subset\_1 (k1\_funct\_1 X0 X1) k2\_numbers))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k2\_numbers)))))) \Rightarrow \\ & ((v3\_funct\_1 X0) \Rightarrow (\forall X1. (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow \\ & (k3\_comseq\_2 X0 = k3\_funct\_2 k5\_numbers k2\_numbers X0 X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge \\ & (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))))) \wedge (m1\_subset\_1 X3 X0))) \Rightarrow (k3\_funct\_2 X0 \\ & X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \exists X0. (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ & k2\_numbers))) \wedge ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge \\ & ((v5\_relat\_1 X0 k2\_numbers) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_funct\_1 X0) \wedge \\ & ((\neg v1\_xboole\_0 X0) \wedge ((v1\_partfun1 X0 k5\_numbers) \wedge ((v1\_funct\_2 \\ & X0 k5\_numbers k2\_numbers) \wedge (v1\_valued\_0 X0)))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (7)$$

Assume the following.

$$m2\_subset\_1 k6\_numbers k1\_numbers k5\_numbers \quad (8)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v3\_funct\_1 X0) \Leftrightarrow \\ & (\forall X1. \forall X2. ((X1 \in k9\_xtuple\_0 X0) \wedge (X2 \in k9\_xtuple\_0 \\ & X0)) \Rightarrow (k1\_funct\_1 X0 X1 = k1\_funct\_1 X0 X2))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1\_xboole\_0 X0) \Rightarrow (\forall X2. (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_xboole\_0 X2)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \end{aligned} \quad (12)$$

### Theorem 1

$$\begin{aligned} & \forall X0. ((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k2\_numbers)))))) \Rightarrow \\ & ((v3\_funct\_1 X0) \Leftrightarrow (\forall X1. (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow \\ & (\forall X2. (m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow (k3\_funct\_2 \\ & k5\_numbers k2\_numbers X0 X1 = k3\_funct\_2 k5\_numbers k2\_numbers \\ & X0 X2)))))) \end{aligned}$$