

# t99\_zf\_lang1

## (TMEqfqFjM89S2Rdn1JbgpcPZjh3iiqVmxU5)

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Let  $v1\_zf\_lang : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $k1\_zf\_lang : \iota$  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  $r1\_zf\_model : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k11\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_zf\_model : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge \\ & (v1\_funct\_2 X1 k1\_zf\_lang X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k1\_zf\_lang X0)))) \Rightarrow (\forall X2.((v1\_zf\_lang X2) \wedge (m2\_finseq\_1 \\ & X2 k5\_numbers)) \Rightarrow (\forall X3.((v1\_zf\_lang X3) \wedge (m2\_finseq\_1 X3 \\ & k5\_numbers)) \Rightarrow ((r1\_zf\_model X0 X1 (k11\_zf\_lang X2 X3)) \Leftrightarrow ((r1\_zf\_model \\ & X0 X1 X2) \Rightarrow (r1\_zf\_model X0 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge \\ & (v1\_funct\_2 X1 k1\_zf\_lang X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k1\_zf\_lang X0)))) \Rightarrow (\forall X2.((v1\_zf\_lang X2) \wedge (m2\_finseq\_1 \\ & X2 k5\_numbers)) \Rightarrow (\forall X3.((v1\_zf\_lang X3) \wedge (m2\_finseq\_1 X3 \\ & k5\_numbers)) \Rightarrow ((r1\_zf\_model X0 X1 (k7\_zf\_lang X2 X3)) \Leftrightarrow ((r1\_zf\_model \\ & X0 X1 X2) \wedge (r1\_zf\_model X0 X1 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_zf\_lang X0) \wedge (m1\_finseq\_1 X0 k5\_numbers)) \wedge \\ & ((v1\_zf\_lang X1) \wedge (m1\_finseq\_1 X1 k5\_numbers))) \Rightarrow ((v1\_zf\_lang \\ & (k12\_zf\_lang X0 X1)) \wedge (m2\_finseq\_1 (k12\_zf\_lang X0 X1) k5\_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_zf\_lang X0) \wedge (m1\_finseq\_1 X0 k5\_numbers)) \wedge \\ & ((v1\_zf\_lang X1) \wedge (m1\_finseq\_1 X1 k5\_numbers)) \Rightarrow ((v1\_zf\_lang \\ & (k11\_zf\_lang X0 X1)) \wedge (m2\_finseq\_1 (k11\_zf\_lang X0 X1) k5\_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_zf\_lang X1) \wedge ( \\ & m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow ((r2\_zf\_model X0 X1) \Leftrightarrow (\forall X2. \\ & ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k1\_zf\_lang X0) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_zf\_lang X0)))))) \Rightarrow (r1\_zf\_model \\ & X0 X2 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (\forall X1. \\ & ((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow (k12\_zf\_lang \\ & X0 X1 = k7\_zf\_lang (k11\_zf\_lang X0 X1) (k11\_zf\_lang X1 X0))) \end{aligned} \quad (7)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (\forall X1. \\ & ((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow (\forall X2. ( \\ & \neg v1\_xboole\_0 X2) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\ & X3 k1\_zf\_lang X2) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_zf\_lang \\ & X2)))))) \Rightarrow ((r1\_zf\_model X2 X3 (k11\_zf\_lang (k12\_zf\_lang X0 X1) ( \\ & k11\_zf\_lang X0 X1))) \wedge (r2\_zf\_model X2 (k11\_zf\_lang (k12\_zf\_lang \\ & X0 X1) (k11\_zf\_lang X0 X1)))))) \end{aligned}$$