

t76\_zf\_lang  
(TMThM8dYQxKhxAAXxptVmL4vceoXGjfgDtm)

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Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_zf\_lang : \iota$  be given. Let  $v1\_zf\_lang : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_zf\_lang : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r3\_zf\_lang : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_zf\_lang : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k5\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_zf\_lang : \iota \Rightarrow \iota$  be given. Let  $k7\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_5 : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X1. \\ & (m2\_subset\_1 X1 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X2. ((v1\_zf\_lang \\ & X2) \wedge (m2\_finseq\_1 X2 k5\_numbers)) \Rightarrow (\neg r3\_zf\_lang X2 (k4\_zf\_lang \\ & X0 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. ((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (r2\_zf\_lang X0 X0) \quad (2)$$

Assume the following.

$$\forall X0. ((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Leftrightarrow (X0 \in k9\_zf\_lang) \quad (3)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (4)$$

Assume the following.

$$\neg v1\_xboole\_0 k9\_zf\_lang \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow ((X0 = k9\_zf\_lang) \Leftrightarrow ((\forall X1. \\
& (X1 \in X0) \Rightarrow (m2\_finseq\_1 X1 k5\_numbers)) \wedge ((\forall X1.(m2\_subset\_1 \\
& X1 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X2.(m2\_subset\_1 X2 k5\_numbers \\
& k1\_zf\_lang) \Rightarrow ((k4\_zf\_lang X1 X2 \in X0) \wedge (k5\_zf\_lang X1 X2 \in X0)))))) \wedge \\
& ((\forall X1.(m2\_finseq\_1 X1 k5\_numbers) \Rightarrow ((X1 \in X0) \Rightarrow (k6\_zf\_lang \\
& X1 \in X0)))) \wedge ((\forall X1.(m2\_finseq\_1 X1 k5\_numbers) \Rightarrow (\forall X2. \\
& (m2\_finseq\_1 X2 k5\_numbers) \Rightarrow (((X1 \in X0) \wedge (X2 \in X0)) \Rightarrow (k7\_zf\_lang \\
& X1 X2 \in X0)))))) \wedge ((\forall X1.(m2\_subset\_1 X1 k5\_numbers k1\_zf\_lang) \Rightarrow \\
& (\forall X2.(m2\_finseq\_1 X2 k5\_numbers) \Rightarrow ((X2 \in X0) \Rightarrow (k8\_zf\_lang \\
& X1 X2 \in X0)))))) \wedge (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow (((\forall X2.(X2 \in \\
& X1) \Rightarrow (m2\_finseq\_1 X2 k5\_numbers)) \wedge ((\forall X2.(m2\_subset\_1 \\
& X2 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X3.(m2\_subset\_1 X3 k5\_numbers \\
& k1\_zf\_lang) \Rightarrow ((k4\_zf\_lang X2 X3 \in X1) \wedge (k5\_zf\_lang X2 X3 \in X1)))))) \wedge \\
& ((\forall X2.(m2\_finseq\_1 X2 k5\_numbers) \Rightarrow ((X2 \in X1) \Rightarrow (k6\_zf\_lang \\
& X2 \in X1)))) \wedge ((\forall X2.(m2\_finseq\_1 X2 k5\_numbers) \Rightarrow (\forall X3. \\
& (m2\_finseq\_1 X3 k5\_numbers) \Rightarrow (((X2 \in X1) \wedge (X3 \in X1)) \Rightarrow (k7\_zf\_lang \\
& X2 X3 \in X1)))))) \wedge (\forall X2.(m2\_subset\_1 X2 k5\_numbers k1\_zf\_lang) \Rightarrow \\
& (\forall X3.(m2\_finseq\_1 X3 k5\_numbers) \Rightarrow ((X3 \in X1) \Rightarrow (k8\_zf\_lang \\
& X2 X3 \in X1)))))) \Rightarrow (r1\_tarski X0 X1))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (\forall X1. \\
& ((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow ((r3\_zf\_lang \\
& X0 X1) \Leftrightarrow ((r2\_zf\_lang X0 X1) \wedge (X0 \neq X1))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& k1\_zf\_lang = ReplSep (toset (\lambda X0 : \iota.m1\_subset\_1 X0 k5\_numbers)) \\
& (\lambda X0 : \iota.r1\_xreal\_0 np\_5 X0) (\lambda X0 : \iota.X0)
\end{aligned} \tag{8}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(m2\_subset\_1 X0 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X1. \\
& (m2\_subset\_1 X1 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X2.((v1\_zf\_lang \\
& X2) \wedge (m2\_finseq\_1 X2 k5\_numbers)) \Rightarrow ((r2\_zf\_lang X2 (k4\_zf\_lang \\
& X0 X1)) \Leftrightarrow (X2 = k4\_zf\_lang X0 X1))))
\end{aligned}$$