

## t17\_zfmodel1

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_zf\_model : \iota \Rightarrow o$  be given. Let  $v1\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $r2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. 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  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zf\_lang : \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zf\_lang : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k2\_zf\_model : \iota \Rightarrow \iota$  be given. Let  $r1\_zf\_model : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k13\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_4 : \iota$  be given. Let  $k12\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmodel1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_zf\_model : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_zf\_model : \iota$  be given. Let  $k9\_zf\_model : \iota$  be given. Let  $k8\_zf\_model : \iota$  be given. Let  $k7\_zf\_model : \iota$  be given. Let  $k11\_zf\_model : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((v1\_ordinal1 X0) \Rightarrow ((r2\_zf\_model \\ X0 k10\_zf\_model) \Leftrightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow (k3\_xboole\_0 \\ X0 (k1\_zfmisc\_1 X1) \in X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((v1\_ordinal1 X0) \Rightarrow ((r2\_zf\_model \\ X0 k9\_zf\_model) \Leftrightarrow (\exists X1. (m1\_subset\_1 X1 X0) \wedge ((X1 \neq k1\_xboole\_0) \wedge \\ (\forall X2. (m1\_subset\_1 X2 X0) \Rightarrow (\neg (X2 \in X1) \wedge (\forall X3. (m1\_subset\_1 \\ X3 X0) \Rightarrow (\neg (r2\_xboole\_0 X2 X3) \wedge (X3 \in X1)))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((v1\_ordinal1 X0) \Rightarrow ((r2\_zf\_model \\ X0 k8\_zf\_model) \Leftrightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow (k3\_tarski X1 \in \\ X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow ((v1\_ordinal1 X0) \Rightarrow ((r2\_zf\_model \\ X0 k7\_zf\_model) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 X0) \Rightarrow (k2\_tarski X1 X2 \in X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow ((v1\_ordinal1 X0) \Rightarrow ((\forall X1. \\ ((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow ((r1\_xboole\_0 \\ (k1\_enumset1 (k2\_zf\_lang k6\_numbers) (k2\_zf\_lang np\_1) (k2\_zf\_lang \\ np\_2)) (k2\_zf\_model X1)) \Rightarrow (r2\_zf\_model X0 (k11\_zf\_model X1)))) \Leftrightarrow \\ (\forall X1.((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow ( \\ \forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k1\_zf\_lang X0) \wedge ( \\ m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_zf\_lang X0)))))) \Rightarrow \\ (((r1\_xboole\_0 (k1\_enumset1 (k2\_zf\_lang k6\_numbers) (k2\_zf\_lang \\ np\_1) (k2\_zf\_lang np\_2)) (k2\_zf\_model X1)) \wedge (r1\_zf\_model X0 \\ X2 (k8\_zf\_lang (k2\_zf\_lang np\_3) (k13\_zf\_lang (k2\_zf\_lang k6\_numbers) \\ (k8\_zf\_lang (k2\_zf\_lang np\_4) (k12\_zf\_lang X1 (k4\_zf\_lang (k2\_zf\_lang \\ np\_4) (k2\_zf\_lang k6\_numbers)))))))))) \Rightarrow (\forall X3.(m1\_subset\_1 \\ X3 X0) \Rightarrow (k7\_relset\_1 X0 X0 (k1\_zfmodel1 X1 X0 X2) X3 \in X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow ((v1\_ordinal1 X0) \Rightarrow (\forall X1. \\ (m1\_subset\_1 X1 X0) \Rightarrow (\forall X2.(m1\_subset\_1 X2 X0) \Rightarrow ((\forall X3. \\ (m1\_subset\_1 X3 X0) \Rightarrow ((X3 \in X1) \Leftrightarrow (X3 \in X2)) \Rightarrow (X1 = X2)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow ((v1\_zf\_model X0) \Leftrightarrow ((v1\_ordinal1 \\ X0) \wedge ((r2\_zf\_model X0 k7\_zf\_model) \wedge ((r2\_zf\_model X0 k8\_zf\_model) \wedge \\ ((r2\_zf\_model X0 k9\_zf\_model) \wedge ((r2\_zf\_model X0 k10\_zf\_model) \wedge \\ (\forall X1.((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow ( \\ (r1\_xboole\_0 (k1\_enumset1 (k2\_zf\_lang k6\_numbers) (k2\_zf\_lang \\ np\_1) (k2\_zf\_lang np\_2)) (k2\_zf\_model X1)) \Rightarrow (r2\_zf\_model X0 \\ (k11\_zf\_model X1)))))))))) \end{aligned} \quad (7)$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((v1\_zf\_model X0) \Rightarrow ((v1\_ordinal1 \\
& \quad X0) \wedge ((\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 X0) \Rightarrow ((\forall X3.(m1\_subset\_1 X3 X0) \Rightarrow ((X3 \in X1) \Leftrightarrow (X3 \in X2))) \Rightarrow \\
& \quad (X1 = X2)))))) \wedge ((\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 X0) \Rightarrow (k2\_tarski X1 X2 \in X0))) \wedge ((\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow \\
& (k3\_tarski X1 \in X0)) \wedge ((\exists X1.(m1\_subset\_1 X1 X0) \wedge ((X1 \neq k1\_xboole\_0) \wedge \\
& \quad (\forall X2.(m1\_subset\_1 X2 X0) \Rightarrow (\neg(X2 \in X1) \wedge (\forall X3.(m1\_subset\_1 \\
& X3 X0) \Rightarrow (\neg(r2\_xboole\_0 X2 X3) \wedge (X3 \in X1)))))) \wedge ((\forall X1.(m1\_subset\_1 \\
& X1 X0) \Rightarrow (k3\_xboole\_0 X0 (k1\_zfmisc\_1 X1) \in X0)) \wedge (\forall X1. ((v1\_zf\_lang \\
& \quad X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow (\forall X2. ((v1\_funct\_1 X2) \wedge \\
& \quad ((v1\_funct\_2 X2 k1\_zf\_lang X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 ( \\
& \quad k2\_zfmisc\_1 k1\_zf\_lang X0)))))) \Rightarrow (((r1\_xboole\_0 (k1\_enumset1 \\
& \quad (k2\_zf\_lang k6\_numbers) (k2\_zf\_lang np\_1) (k2\_zf\_lang np\_2)) \\
& \quad (k2\_zf\_model X1)) \wedge (r1\_zf\_model X0 X2 (k8\_zf\_lang (k2\_zf\_lang \\
& \quad np\_3) (k13\_zf\_lang (k2\_zf\_lang k6\_numbers) (k8\_zf\_lang (k2\_zf\_lang \\
& \quad np\_4) (k12\_zf\_lang X1 (k4\_zf\_lang (k2\_zf\_lang np\_4) (k2\_zf\_lang \\
& \quad k6\_numbers)))))))))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 X0) \Rightarrow (k7\_relset\_1 \\
& \quad X0 X0 (k1\_zfmodel1 X1 X0 X2) X3 \in X0)))))))))
\end{aligned}$$