

# t4\_zfmodel2 (TMNdAumFsuB- zxWF7d81bDn6zur5J3i7MoLA)

October 27, 2020

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  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_zf\_lang : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_zf\_lang1 : \iota \Rightarrow \iota$  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  $k2\_zf\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k2\_funct\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zf\_model : \iota \Rightarrow \iota$  be given. Let  $k3\_zf\_lang1 : \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (\forall X1. \\ & (m2\_subset\_1 X1 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X2.(\neg v1\_xboole\_0 \\ & X2) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 k1\_zf\_lang \\ & X2) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_zf\_lang X2)))))) \Rightarrow \\ & ((r1\_zf\_model X2 X3 (k8\_zf\_lang X1 X0)) \Leftrightarrow (\forall X4.(m1\_subset\_1 \\ & X4 X2) \Rightarrow (r1\_zf\_model X2 (k2\_zf\_lang1 X2 X3 X1 X4) X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.k2\_funct\_7 X0 X1 (k1\_funct\_1 X0 X1) = X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$\forall X0.((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (r1\_tarski (k2\_zf\_model X0) (k3\_zf\_lang1 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X1. \\ & ((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow (\forall X2.( \\ & \neg v1\_xboole\_0 X2) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\ & X3 k1\_zf\_lang X2) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_zf\_lang \\ & X2)))))) \Rightarrow ((r1\_zf\_model X2 X3 X1) \Rightarrow ((X0 \in k2\_zf\_model X1) \vee (r1\_zf\_model \\ & X2 X3 (k8\_zf\_lang X0 X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (10)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0.((v1\_zf\_lang X0) \wedge (m1\_finseq\_1 X0 k5\_numbers)) \Rightarrow (k4\_zf\_lang1 X0 = k3\_zf\_lang1 X0) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0) \wedge \\ & (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))))) \wedge (m1\_subset\_1 X3 X0))) \Rightarrow (k3\_funct\_2 X0 \\ & X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & (((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k1\_zf\_lang X0)\wedge(m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_zf\_lang X0))))))\wedge((m1\_subset\_1 \\ & X2 k1\_zf\_lang)\wedge(m1\_subset\_1 X3 X0)))\Rightarrow(k2\_zf\_lang1 X0 X1 X2 X3 = \\ & k2\_funct\_7 X1 X2 X3) \end{aligned} \quad (14)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (15)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_zf\_lang \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & (((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))))))\wedge(m1\_subset\_1 X3 X0)))\Rightarrow(m1\_subset\_1 ( \\ & k3\_funct\_2 X0 X1 X2 X3) X1) \end{aligned} \quad (17)$$

Assume the following.

$$m1\_subset\_1 k1\_zf\_lang (k1\_zfmisc\_1 k5\_numbers) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (19)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k5\_numbers k1\_zf\_lang)\Rightarrow(\forall X1. \\ & (\neg v1\_xboole\_0 X1)\Rightarrow(\forall X2.((v1\_zf\_lang X2)\wedge(m2\_finseq\_1 \\ & X2 k5\_numbers))\Rightarrow(\forall X3.((v1\_funct\_1 X3)\wedge((v1\_funct\_2 X3 \\ & k1\_zf\_lang X1)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_zf\_lang \\ & X1))))))\Rightarrow((\neg X0 \in k4\_zf\_lang1 X2)\Rightarrow((r1\_zf\_model X1 X3 X2)\Leftrightarrow(r1\_zf\_model \\ & X1 X3 (k8\_zf\_lang X0 X2)))))) \end{aligned}$$