

# 114\_numbers (TMWkeRaD- NwyKSU2HVVPdimjNmuCz7Nm1jVW)

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Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_arytm\_3 : \iota$  be given. Let  $r3\_arytm\_3 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k2\_arytm\_2 : \iota$  be given. Let  $r1\_arytm\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_arytm\_3 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $np\_1 : \iota$  be given. Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1 X1 k5\_arytm\_3) \Rightarrow ((r3\_arytm\_3 X0 X1) \wedge (r3\_arytm\_3 X1 X0)) \Rightarrow (X0 = X1)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (2)$$

Assume the following.

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow ((X0 \in k5\_arytm\_3) \Rightarrow (X0 \in k4\_ordinal1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$r1\_tarski k4\_ordinal1 k2\_arytm\_2 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k2\_arytm\_2) \Rightarrow ((X0 \in k4\_ordinal1) \Rightarrow ( \\ & \forall X1.(m1\_subset\_1 X1 k2\_arytm\_2) \Rightarrow ((X1 \in X0) \Leftrightarrow ((X1 \in k4\_ordinal1) \wedge \\ & ((X1 \neq X0) \wedge (r1\_arytm\_2 X1 X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (9)$$

Assume the following.

$$\neg v1\_xboole\_0 k5\_arytm\_3 \quad (10)$$

Assume the following.

$$\neg v1\_xboole\_0 k2\_arytm\_2 \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ & X2 X0 X1) \Rightarrow (m1\_subset\_1 X2 X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & k5\_arytm\_3 = k2\_xboole\_0 (k6\_subset\_1 (ReplSep2 (toset (\lambda X0 : \\ & \iota.m1\_subset\_1 X0 k4\_ordinal1)) (\lambda X0 : \iota.toset (\lambda X1 : \\ & \iota.m1\_subset\_1 X1 k4\_ordinal1)) (\lambda X0 : \iota.\lambda X1 : \iota.(r1\_arytm\_3 \\ & X0 X1) \wedge (X1 \neq k1\_xboole\_0)) (\lambda X0 : \iota.\lambda X1 : \iota.k4\_tarski \\ & X0 X1)) (ReplSep (toset (\lambda X0 : \iota.m1\_subset\_1 X0 k4\_ordinal1)) \\ & (\lambda X0 : \iota.True) (\lambda X0 : \iota.k4\_tarski X0 np\_1))) k4\_ordinal1 \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k2\_arytm\_2) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k2\_arytm\_2) \Rightarrow (((X0 \in k5\_arytm\_3) \wedge (X1 \in k5\_arytm\_3)) \Rightarrow ((r1\_arytm\_2 \\ & X0 X1) \Leftrightarrow (\exists X2.(m1\_subset\_1 X2 k5\_arytm\_3) \wedge (\exists X3.( \\ & m1\_subset\_1 X3 k5\_arytm\_3) \wedge ((X0 = X2) \wedge ((X1 = X3) \wedge (r3\_arytm\_3 X2 \\ & X3)))))) \wedge (((X0 \in k5\_arytm\_3) \Rightarrow ((X1 \in k5\_arytm\_3) \vee ((r1\_arytm\_2 \\ & X0 X1) \Leftrightarrow (X0 \in X1)))) \wedge (((X1 \in k5\_arytm\_3) \Rightarrow ((X0 \in k5\_arytm\_3) \vee ((r1\_arytm\_2 \\ & X0 X1) \Leftrightarrow (\neg X1 \in X0)))) \wedge (\neg(\neg(X0 \in k5\_arytm\_3) \wedge (X1 \in k5\_arytm\_3)) \wedge \\ & ((\neg(X0 \in k5\_arytm\_3) \wedge (\neg X1 \in k5\_arytm\_3)) \wedge ((\neg(\neg X0 \in k5\_arytm\_3) \wedge \\ & (X1 \in k5\_arytm\_3)) \wedge (\neg(r1\_arytm\_2 X0 X1) \Leftrightarrow (r1\_tarski X0 X1))))))))) \end{aligned} \quad (14)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v3\_ordinal1\ X0)\wedge(m1\_subset\_1\ X0\ k5\_arytm\_3))\Rightarrow( \\ \forall X1.((v3\_ordinal1\ X1)\wedge(m1\_subset\_1\ X1\ k5\_arytm\_3))\Rightarrow( \\ \neg(X0 \in X1)\wedge(r3\_arytm\_3\ X1\ X0)) \end{aligned}$$