

t94\_aofa\_000

(TMUPH2KLk4aaxbbnAKXBvX6RhHBwckzcDm6)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $v3\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $v4\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $v3\_aofa\_000 : \iota \Rightarrow o$  be given. Let  $v4\_aofa\_000 : \iota \Rightarrow o$  be given. Let  $v5\_aofa\_000 : \iota \Rightarrow o$  be given. Let  $v6\_aofa\_000 : \iota \Rightarrow o$  be given. Let  $l1\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_aofa\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_aofa\_000 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k21\_aofa\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k12\_aofa\_000 : \iota \Rightarrow \iota$  be given. Let  $k2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_aofa\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k14\_aofa\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_aofa\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (k4\_tarski X0 X1 \in k2\_zfmisc\_1 X2 X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2\_struct\_0 \\ & X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 X0) \wedge ((v4\_unialg\_1 X0) \wedge \\ & ((v3\_aofa\_000 X0) \wedge ((v4\_aofa\_000 X0) \wedge ((v5\_aofa\_000 X0) \wedge ((v6\_aofa\_000 \\ & X0) \wedge (l1\_unialg\_1 X0)))))))))) \wedge ((\neg v1\_xboole\_0 X1) \wedge ((m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 X1)) \wedge (m1\_aofa\_000 X3 X0 X1 X2)))) \Rightarrow (m1\_subset\_1 \\ & (k21\_aofa\_000 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 (u1\_struct\_0 \\ & X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 \\
& X0) \wedge ((v4\_unialg\_1 X0) \wedge ((v3\_aofa\_000 X0) \wedge ((v4\_aofa\_000 X0) \wedge \\
& ((v5\_aofa\_000 X0) \wedge ((v6\_aofa\_000 X0) \wedge (l1\_unialg\_1 X0))))))))) \Rightarrow \\
& (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& X1)) \Rightarrow (\forall X3.(m1\_aofa\_000 X3 X0 X1 X2) \Rightarrow (\forall X4.(m1\_subset\_1 \\
& X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 (u1\_struct\_0 X0)))) \Rightarrow ((X4 = k21\_aofa\_000 \\
& X0 X1 X2 X3) \Leftrightarrow ((r1\_tarski (k2\_zfmisc\_1 X1 (k18\_aofa\_000 X0)) X4) \wedge \\
& ((r1\_tarski (k2\_zfmisc\_1 X1 (k1\_tarski (k12\_aofa\_000 X0))) X4) \wedge \\
& ((\forall X5.(m1\_subset\_1 X5 X1) \Rightarrow (\forall X6.(m1\_subset\_1 X6 \\
& (u1\_struct\_0 X0)) \Rightarrow (\forall X7.(m1\_subset\_1 X7 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X8.(m1\_subset\_1 X8 (u1\_struct\_0 X0)) \Rightarrow (((k4\_tarski \\
& X5 X7 \in X4) \wedge (k4\_tarski (k2\_binop\_1 X1 (u1\_struct\_0 X0) X1 X3 X5 X7) \\
& X8 \in X4)) \Rightarrow (k4\_tarski X5 (k13\_aofa\_000 X0 X7 X8) \in X4)) \wedge (((k4\_tarski \\
& X5 X6 \in X4) \wedge ((k4\_tarski (k2\_binop\_1 X1 (u1\_struct\_0 X0) X1 X3 X5 X6) \\
& X7 \in X4) \wedge (k2\_binop\_1 X1 (u1\_struct\_0 X0) X1 X3 X5 X6 \in X2))) \Rightarrow (k4\_tarski \\
& X5 (k14\_aofa\_000 X0 X6 X7 X8) \in X4)) \wedge (((k4\_tarski X5 X6 \in X4) \wedge (k4\_tarski \\
& (k2\_binop\_1 X1 (u1\_struct\_0 X0) X1 X3 X5 X6) X8 \in X4)) \Rightarrow ((k2\_binop\_1 \\
& X1 (u1\_struct\_0 X0) X1 X3 X5 X6 \in X2) \vee (k4\_tarski X5 (k14\_aofa\_000 \\
& X0 X6 X7 X8) \in X4))) \wedge ((k4\_tarski X5 X6 \in X4) \Rightarrow ((\forall X9.((\neg v1\_xboole\_0 \\
& X9) \wedge (m2\_finseq\_1 X9 X1)) \Rightarrow (\neg (k1\_funct\_1 X9 np\_1 = k2\_binop\_1 X1 \\
& (u1\_struct\_0 X0) X1 X3 X5 X6) \wedge ((\neg k1\_funct\_1 X9 (k3\_finseq\_1 X9) \in \\
& X2) \wedge (\forall X10.(v7\_ordinal1 X10) \Rightarrow ((r1\_xxreal\_0 np\_1 X10) \Rightarrow \\
& ((r1\_xxreal\_0 (k3\_finseq\_1 X9) X10) \vee ((k1\_funct\_1 X9 X10 \in X2) \wedge \\
& ((k4\_tarski (k1\_funct\_1 X9 X10) (k13\_aofa\_000 X0 X7 X6) \in X4) \wedge (k1\_funct\_1 \\
& X9 (k1\_nat\_1 X10 np\_1) = k1\_binop\_1 X3 (k1\_funct\_1 X9 X10) (k13\_aofa\_000 \\
& X0 X7 X6))))))))) \vee (k4\_tarski X5 (k16\_aofa\_000 X0 X6 X7) \in X4)))))) \wedge \\
& (\forall X5.(m1\_subset\_1 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 (u1\_struct\_0 \\
& X0)))) \Rightarrow (((r1\_tarski (k2\_zfmisc\_1 X1 (k18\_aofa\_000 X0)) X5) \wedge ( \\
& (r1\_tarski (k2\_zfmisc\_1 X1 (k1\_tarski (k12\_aofa\_000 X0))) X5) \wedge \\
& (\forall X6.(m1\_subset\_1 X6 X1) \Rightarrow (\forall X7.(m1\_subset\_1 X7 ( \\
& u1\_struct\_0 X0)) \Rightarrow (\forall X8.(m1\_subset\_1 X8 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X9.(m1\_subset\_1 X9 (u1\_struct\_0 X0)) \Rightarrow (((k4\_tarski \\
& X6 X8 \in X5) \wedge (k4\_tarski (k2\_binop\_1 X1 (u1\_struct\_0 X0) X1 X3 X6 X8) \\
& X9 \in X5)) \Rightarrow (k4\_tarski X6 (k13\_aofa\_000 X0 X8 X9) \in X5)) \wedge (((k4\_tarski \\
& X6 X7 \in X5) \wedge ((k4\_tarski (k2\_binop\_1 X1 (u1\_struct\_0 X0) X1 X3 X6 X7) \\
& X8 \in X5) \wedge (k2\_binop\_1 X1 (u1\_struct\_0 X0) X1 X3 X6 X7 \in X2))) \Rightarrow (k4\_tarski \\
& X6 (k14\_aofa\_000 X0 X7 X8 X9) \in X5)) \wedge (((k4\_tarski X6 X7 \in X5) \wedge (k4\_tarski \\
& (k2\_binop\_1 X1 (u1\_struct\_0 X0) X1 X3 X6 X7) X9 \in X5)) \Rightarrow ((k2\_binop\_1 \\
& X1 (u1\_struct\_0 X0) X1 X3 X6 X7 \in X2) \vee (k4\_tarski X6 (k14\_aofa\_000 \\
& X0 X7 X8 X9) \in X5))) \wedge ((k4\_tarski X6 X7 \in X5) \Rightarrow ((\forall X10.((\neg v1\_xboole\_0 \\
& X10) \wedge (m2\_finseq\_1 X10 X1)) \Rightarrow (\neg (k1\_funct\_1 X10 np\_1 = k2\_binop\_1 \\
& X1 (u1\_struct\_0 X0) X1 X3 X6 X7) \wedge ((\neg k1\_funct\_1 X10 (k3\_finseq\_1 \\
& X10) \in X2) \wedge (\forall X11.(v7\_ordinal1 X11) \Rightarrow ((r1\_xxreal\_0 np\_1 \\
& X11) \Rightarrow ((r1\_xxreal\_0 (k3\_finseq\_1 X10) X11) \vee ((k1\_funct\_1 X10 X11 \in \\
& X2) \wedge ((k4\_tarski (k1\_funct\_1 X10 X11) (k13\_aofa\_000 X0 X8 X7) \in X5) \wedge \\
& (k1\_funct\_1 X10 (k1\_nat\_1 X11 np\_1) = k1\_binop\_1 X3 (k1\_funct\_1 \\
& X10 X11) (k13\_aofa\_000 X0 X8 X7))))))))) \vee (k4\_tarski X6 (k16\_aofa\_000 \\
& X0 X7 X8) \in X5)))))) \Rightarrow (r1\_relset\_1 X1 (u1\_struct\_0 X0) X4 X5))))))))) \\
& (4)
\end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \Rightarrow ((m1\_subset\_1 X1 X0) \Leftrightarrow \\ & (X1 \in X0))) \wedge ((v1\_xboole\_0 X0) \Rightarrow ((m1\_subset\_1 X1 X0) \Leftrightarrow (v1\_xboole\_0 \\ & X1))) \end{aligned} \tag{5}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 \\ & X0) \wedge ((v4\_unialg\_1 X0) \wedge ((v3\_aofa\_000 X0) \wedge ((v4\_aofa\_000 X0) \wedge \\ & ((v5\_aofa\_000 X0) \wedge ((v6\_aofa\_000 X0) \wedge (l1\_unialg\_1 X0)))))))))) \Rightarrow \\ & (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (\neg \\ & v1\_xboole\_0 X2) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (k1\_zfmisc\_1 X2)) \Rightarrow \\ & (\forall X4. (m1\_subset\_1 X4 X2) \Rightarrow (\forall X5. (m1\_aofa\_000 X5 X0 \\ & X2 X3) \Rightarrow ((X1 \in k18\_aofa\_000 X0) \Rightarrow (k4\_tarski X4 X1 \in k21\_aofa\_000 X0 \\ & X2 X3 X5)))))))))) \end{aligned}$$