

t27\_aofa\_i00

(TMLj6kptuaJuzqVyxuWwXPBoEdvM42ePUwM)

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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  $v2\_aofa\_i00 : \iota \Rightarrow o$  be given. Let  $l1\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v4\_card\_3 : \iota \Rightarrow o$  be given. Let  $m2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_numbers : \iota$  be given. Let  $k9\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_aofa\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k21\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k48\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m3\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k47\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k42\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 \\
& X0) \wedge ((v4\_unialg\_1 X0) \wedge ((v3\_aofa\_000 X0) \wedge ((v4\_aofa\_000 X0) \wedge \\
& ((v5\_aofa\_000 X0) \wedge ((v6\_aofa\_000 X0) \wedge ((v2\_aofa\_i00 X0) \wedge (l1\_unialg\_1 \\
& X0)))))))))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (v4\_card\_3 X1)) \Rightarrow \\
& (\forall X2.(m2\_funct\_2 X2 X1 k4\_numbers (k9\_funct\_2 X1 k4\_numbers)) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k9\_funct\_2 X1 k4\_numbers)) \Rightarrow \\
& (\forall X4.((v1\_aofa\_i00 X4 X0 X1 X3) \wedge (m1\_aofa\_000 X4 X0 (k9\_funct\_2 \\
& X1 k4\_numbers) X3)) \Rightarrow (\forall X5.(m1\_aofa\_i00 X5 X1 (u1\_struct\_0 \\
& X0) (k9\_funct\_2 X1 k4\_numbers) X4) \Rightarrow (\forall X6.(m3\_aofa\_i00 X6 \\
& X0 X1 X3 X4) \Rightarrow ((k21\_aofa\_i00 X1 k4\_numbers (k2\_binop\_1 (k9\_funct\_2 \\
& X1 k4\_numbers) (u1\_struct\_0 X0) (k9\_funct\_2 X1 k4\_numbers) X4 X2 \\
& (k47\_aofa\_i00 X0 X1 X3 X4 X5 X6)) X5 = k3\_funct\_2 (k9\_funct\_2 X1 k4\_numbers) \\
& k4\_numbers X6 X2) \wedge (\forall X7.(m1\_subset\_1 X7 X1) \Rightarrow ((X7 \neq X5) \Rightarrow ( \\
& k21\_aofa\_i00 X1 k4\_numbers (k2\_binop\_1 (k9\_funct\_2 X1 k4\_numbers) \\
& (u1\_struct\_0 X0) (k9\_funct\_2 X1 k4\_numbers) X4 X2 (k47\_aofa\_i00 \\
& X0 X1 X3 X4 X5 X6)) X7 = k21\_aofa\_i00 X1 k4\_numbers X2 X7)))))))))) \\
& \tag{1}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 \\
& X0) \wedge ((v4\_unialg\_1 X0) \wedge ((v3\_aofa\_000 X0) \wedge ((v4\_aofa\_000 X0) \wedge \\
& ((v5\_aofa\_000 X0) \wedge ((v6\_aofa\_000 X0) \wedge ((v2\_aofa\_i00 X0) \wedge (l1\_unialg\_1 \\
& X0)))))))))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (v4\_card\_3 X1)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k9\_funct\_2 X1 k4\_numbers)) \Rightarrow \\
& (\forall X3.((v1\_aofa\_i00 X3 X0 X1 X2) \wedge (m1\_aofa\_000 X3 X0 (k9\_funct\_2 \\
& X1 k4\_numbers) X2)) \Rightarrow (\forall X4.(m1\_aofa\_i00 X4 X1 (u1\_struct\_0 \\
& X0) (k9\_funct\_2 X1 k4\_numbers) X3) \Rightarrow (\forall X5.(m2\_funct\_2 X5 \\
& X1 k4\_numbers (k9\_funct\_2 X1 k4\_numbers)) \Rightarrow (k3\_funct\_2 (k9\_funct\_2 \\
& X1 k4\_numbers) k4\_numbers (k42\_aofa\_i00 X0 X1 X2 X3 X4) X5 = k21\_aofa\_i00 \\
& X1 k4\_numbers X5 X4)))))) \\
& \tag{2}
\end{aligned}$$

Assume the following.

$$\neg v1\_xboole\_0 k4\_numbers \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_funct\_2 X2 X0 X1) \Rightarrow (\neg v1\_xboole\_0 X2) \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X3) \wedge \\
& ((v1\_funct\_2 X3 (k2\_zfmisc\_1 (k9\_funct\_2 X0 k4\_numbers) X1) X2) \wedge \\
& (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (k9\_funct\_2 \\
& X0 k4\_numbers) X1) X2)))))) \Rightarrow (\forall X4. (m1\_aofa\_i00 X4 X0 X1 X2 \\
& X3) \Rightarrow (m1\_subset\_1 X4 X0)) \\
& \tag{5}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 \\
& X0) \wedge ((v3\_unialg\_1 X0) \wedge ((v4\_unialg\_1 X0) \wedge ((v3\_aofa\_000 X0) \wedge \\
& ((v4\_aofa\_000 X0) \wedge ((v5\_aofa\_000 X0) \wedge ((v6\_aofa\_000 X0) \wedge (l1\_unialg\_1 \\
& X0)))))))))) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& X1)))) \Rightarrow (\forall X3. (m1\_aofa\_000 X3 X0 X1 X2) \Rightarrow ((v1\_funct\_1 X3) \wedge \\
& ((v1\_funct\_2 X3 (k2\_zfmisc\_1 X1 (u1\_struct\_0 X0)) X1) \wedge (m1\_subset\_1 \\
& X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X1 (u1\_struct\_0 X0)) \\
& X1))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0. \forall X1. (\neg v1\_xboole\_0 X1) \Rightarrow (m1\_funct\_2 (k9\_funct\_2 X0 X1) X0 X1) \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((\neg v2\_struct\_0 \\
& X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 X0) \wedge ((v4\_unialg\_1 X0) \wedge \\
& ((v3\_aofa\_000 X0) \wedge ((v4\_aofa\_000 X0) \wedge ((v5\_aofa\_000 X0) \wedge ((v6\_aofa\_000 \\
& X0) \wedge ((v2\_aofa\_i00 X0) \wedge (l1\_unialg\_1 X0)))))))))) \wedge ((\neg v1\_xboole\_0 \\
& X1) \wedge (v4\_card\_3 X1)) \wedge ((m1\_subset\_1 X2 (k1\_zfmisc\_1 (k9\_funct\_2 \\
& X1 k4\_numbers))) \wedge ((v1\_aofa\_i00 X3 X0 X1 X2) \wedge (m1\_aofa\_000 X3 X0 \\
& (k9\_funct\_2 X1 k4\_numbers) X2)) \wedge (m1\_aofa\_i00 X4 X1 (u1\_struct\_0 \\
& X0) (k9\_funct\_2 X1 k4\_numbers) X3)))) \Rightarrow (m3\_aofa\_i00 (k42\_aofa\_i00 \\
& X0 X1 X2 X3 X4) X0 X1 X2 X3)
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 \\
& X0) \wedge ((v4\_unialg\_1 X0) \wedge ((v3\_aofa\_000 X0) \wedge ((v4\_aofa\_000 X0) \wedge \\
& ((v5\_aofa\_000 X0) \wedge ((v6\_aofa\_000 X0) \wedge ((v2\_aofa\_i00 X0) \wedge (l1\_unialg\_1 \\
& X0)))))))))) \Rightarrow (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge (v4\_card\_3 X1)) \Rightarrow \\
& (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k9\_funct\_2 X1 k4\_numbers)))) \Rightarrow \\
& (\forall X3. ((v1\_aofa\_i00 X3 X0 X1 X2) \wedge (m1\_aofa\_000 X3 X0 (k9\_funct\_2 \\
& X1 k4\_numbers) X2)) \Rightarrow (\forall X4. (m1\_subset\_1 X4 X1) \Rightarrow (\forall X5. \\
& (m1\_aofa\_i00 X5 X1 (u1\_struct\_0 X0) (k9\_funct\_2 X1 k4\_numbers) \\
& X3) \Rightarrow (k48\_aofa\_i00 X0 X1 X2 X3 X4 X5 = k47\_aofa\_i00 X0 X1 X2 X3 X4 (k42\_aofa\_i00 \\
& X0 X1 X2 X3 X5))))))
\end{aligned} \tag{9}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 \\
& X0) \wedge ((v4\_unialg\_1 X0) \wedge ((v3\_aofa\_000 X0) \wedge ((v4\_aofa\_000 X0) \wedge \\
& ((v5\_aofa\_000 X0) \wedge ((v6\_aofa\_000 X0) \wedge ((v2\_aofa\_i00 X0) \wedge (l1\_unialg\_1 \\
& X0)))))))))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (v4\_card\_3 X1)) \Rightarrow \\
& (\forall X2.(m2\_funct\_2 X2 X1 k4\_numbers (k9\_funct\_2 X1 k4\_numbers)) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k9\_funct\_2 X1 k4\_numbers))) \Rightarrow \\
& (\forall X4.((v1\_aofa\_i00 X4 X0 X1 X3) \wedge (m1\_aofa\_000 X4 X0 (k9\_funct\_2 \\
& X1 k4\_numbers) X3)) \Rightarrow (\forall X5.(m1\_aofa\_i00 X5 X1 (u1\_struct\_0 \\
& X0) (k9\_funct\_2 X1 k4\_numbers) X4) \Rightarrow (\forall X6.(m1\_aofa\_i00 X6 \\
& X1 (u1\_struct\_0 X0) (k9\_funct\_2 X1 k4\_numbers) X4) \Rightarrow ((k21\_aofa\_i00 \\
& X1 k4\_numbers (k2\_binop\_1 (k9\_funct\_2 X1 k4\_numbers) (u1\_struct\_0 \\
& X0) (k9\_funct\_2 X1 k4\_numbers) X4 X2 (k48\_aofa\_i00 X0 X1 X3 X4 X5 X6)) \\
& X5 = k21\_aofa\_i00 X1 k4\_numbers X2 X6) \wedge (\forall X7.(m1\_subset\_1 \\
& X7 X1) \Rightarrow ((X7 \neq X5) \Rightarrow (k21\_aofa\_i00 X1 k4\_numbers (k2\_binop\_1 (k9\_funct\_2 \\
& X1 k4\_numbers) (u1\_struct\_0 X0) (k9\_funct\_2 X1 k4\_numbers) X4 X2 \\
& (k48\_aofa\_i00 X0 X1 X3 X4 X5 X6)) X7 = k21\_aofa\_i00 X1 k4\_numbers X2 \\
& X7))))))))))
\end{aligned}$$