

t43\_aofa\_i00

(TMPPp97JvD6W52xowkJQP6ewp63iBSAWCNr)

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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  $m2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $m3\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k21\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k55\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_int\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k47\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k42\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k36\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given.

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v2\_struct\_0 \\
& X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 X0) \wedge ((v4\_unialg\_1 X0) \wedge \\
& ((v3\_aofa\_000 X0) \wedge ((v4\_aofa\_000 X0) \wedge ((v5\_aofa\_000 X0) \wedge ((v6\_aofa\_000 \\
& X0) \wedge ((v2\_aofa\_i00 X0) \wedge (l1\_unialg\_1 X0)))))))))) \wedge (((\neg v1\_xboole\_0 \\
& X1) \wedge (v4\_card\_3 X1)) \wedge ((m1\_subset\_1 X2 (k1\_zfmisc\_1 (k9\_funct\_2 \\
& X1 k4\_numbers))) \wedge ((v1\_aofa\_i00 X3 X0 X1 X2) \wedge (m1\_aofa\_000 X3 X0 \\
& (k9\_funct\_2 X1 k4\_numbers) X2)) \wedge (m1\_aofa\_i00 X4 X1 (u1\_struct\_0 \\
& X0) (k9\_funct\_2 X1 k4\_numbers) X3)))))) \Rightarrow (m3\_aofa\_i00 (k42\_aofa\_i00 \\
& X0 X1 X2 X3 X4) X0 X1 X2 X3) \\
& (3)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& (((\neg v2\_struct\_0 X0)\wedge((v2\_unialg\_1 X0)\wedge((v3\_unialg\_1 X0)\wedge( \\
& v4\_unialg\_1 X0)\wedge((v3\_aofa\_000 X0)\wedge((v4\_aofa\_000 X0)\wedge((v5\_aofa\_000 \\
& X0)\wedge((v6\_aofa\_000 X0)\wedge((v2\_aofa\_i00 X0)\wedge(l1\_unialg\_1 X0)))))))))\wedge \\
& (((\neg v1\_xboole\_0 X1)\wedge(v4\_card\_3 X1))\wedge((m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (k9\_funct\_2 X1 k4\_numbers)))\wedge((v1\_aofa\_i00 X3 X0 X1 X2)\wedge(m1\_aofa\_000 \\
& X3 X0 (k9\_funct\_2 X1 k4\_numbers) X2))\wedge((m3\_aofa\_i00 X4 X0 X1 X2 X3)\wedge \\
& (m3\_aofa\_i00 X5 X0 X1 X2 X3))))))\Rightarrow(m3\_aofa\_i00 (k36\_aofa\_i00 X0 \\
& X1 X2 X3 X4 X5) X0 X1 X2 X3)
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_unialg\_1 X0)\wedge((v3\_unialg\_1 \\
& X0)\wedge((v4\_unialg\_1 X0)\wedge((v3\_aofa\_000 X0)\wedge((v4\_aofa\_000 X0)\wedge \\
& ((v5\_aofa\_000 X0)\wedge((v6\_aofa\_000 X0)\wedge((v2\_aofa\_i00 X0)\wedge(l1\_unialg\_1 \\
& X0)))))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0 X1)\wedge(v4\_card\_3 X1))\Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k9\_funct\_2 X1 k4\_numbers)))\Rightarrow \\
& (\forall X3.((v1\_aofa\_i00 X3 X0 X1 X2)\wedge(m1\_aofa\_000 X3 X0 (k9\_funct\_2 \\
& X1 k4\_numbers) X2))\Rightarrow(\forall X4.(m1\_aofa\_i00 X4 X1 (u1\_struct\_0 \\
& X0) (k9\_funct\_2 X1 k4\_numbers) X3)\Rightarrow(\forall X5.(m3\_aofa\_i00 X5 \\
& X0 X1 X2 X3)\Rightarrow(k55\_aofa\_i00 X0 X1 X2 X3 X4 X5 = k47\_aofa\_i00 X0 X1 X2 X3 \\
& X4 (k36\_aofa\_i00 X0 X1 X2 X3 (k42\_aofa\_i00 X0 X1 X2 X3 X4) X5)))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_unialg\_1 X0)\wedge((v3\_unialg\_1 \\
& X0)\wedge((v4\_unialg\_1 X0)\wedge((v3\_aofa\_000 X0)\wedge((v4\_aofa\_000 X0)\wedge \\
& ((v5\_aofa\_000 X0)\wedge((v6\_aofa\_000 X0)\wedge((v2\_aofa\_i00 X0)\wedge(l1\_unialg\_1 \\
& X0)))))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0 X1)\wedge(v4\_card\_3 X1))\Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k9\_funct\_2 X1 k4\_numbers)))\Rightarrow \\
& (\forall X3.((v1\_aofa\_i00 X3 X0 X1 X2)\wedge(m1\_aofa\_000 X3 X0 (k9\_funct\_2 \\
& X1 k4\_numbers) X2))\Rightarrow(\forall X4.(m3\_aofa\_i00 X4 X0 X1 X2 X3)\Rightarrow(\forall X5. \\
& (m3\_aofa\_i00 X5 X0 X1 X2 X3)\Rightarrow(\forall X6.(m3\_aofa\_i00 X6 X0 X1 X2 \\
& X3)\Rightarrow((X6 = k36\_aofa\_i00 X0 X1 X2 X3 X4 X5)\Leftrightarrow(\forall X7.(m2\_funct\_2 \\
& X7 X1 k4\_numbers (k9\_funct\_2 X1 k4\_numbers))\Rightarrow(k3\_funct\_2 (k9\_funct\_2 \\
& X1 k4\_numbers) k4\_numbers X6 X7 = k6\_int\_1 (k3\_funct\_2 (k9\_funct\_2 \\
& X1 k4\_numbers) k4\_numbers X4 X7) (k3\_funct\_2 (k9\_funct\_2 X1 k4\_numbers) \\
& k4\_numbers X5 X7)))))))))
\end{aligned} \tag{6}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 \\ & X0) \wedge ((v4\_unialg\_1 X0) \wedge ((v3\_aofa\_000 X0) \wedge ((v4\_aofa\_000 X0) \wedge \\ & ((v5\_aofa\_000 X0) \wedge ((v6\_aofa\_000 X0) \wedge ((v2\_aofa\_i00 X0) \wedge (l1\_unialg\_1 \\ & X0)))))))))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (v4\_card\_3 X1)) \Rightarrow \\ & (\forall X2.(m2\_funct\_2 X2 X1 k4\_numbers (k9\_funct\_2 X1 k4\_numbers)) \Rightarrow \\ & (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k9\_funct\_2 X1 k4\_numbers))) \Rightarrow \\ & (\forall X4.((v1\_aofa\_i00 X4 X0 X1 X3) \wedge (m1\_aofa\_000 X4 X0 (k9\_funct\_2 \\ & X1 k4\_numbers) X3)) \Rightarrow (\forall X5.(m1\_aofa\_i00 X5 X1 (u1\_struct\_0 \\ & X0) (k9\_funct\_2 X1 k4\_numbers) X4) \Rightarrow (\forall X6.(m3\_aofa\_i00 X6 \\ & X0 X1 X3 X4) \Rightarrow ((k21\_aofa\_i00 X1 k4\_numbers (k2\_binop\_1 (k9\_funct\_2 \\ & X1 k4\_numbers) (u1\_struct\_0 X0) (k9\_funct\_2 X1 k4\_numbers) X4 X2 \\ & (k55\_aofa\_i00 X0 X1 X3 X4 X5 X6)) X5 = k6\_int\_1 (k21\_aofa\_i00 X1 k4\_numbers \\ & X2 X5) (k3\_funct\_2 (k9\_funct\_2 X1 k4\_numbers) k4\_numbers X6 X2)) \wedge \\ & (\forall X7.(m1\_subset\_1 X7 X1) \Rightarrow ((X7 \neq X5) \Rightarrow (k21\_aofa\_i00 X1 k4\_numbers \\ & (k2\_binop\_1 (k9\_funct\_2 X1 k4\_numbers) (u1\_struct\_0 X0) (k9\_funct\_2 \\ & X1 k4\_numbers) X4 X2 (k55\_aofa\_i00 X0 X1 X3 X4 X5 X6)) X7 = k21\_aofa\_i00 \\ & X1 k4\_numbers X2 X7)))))))))) \end{aligned}$$