

## t73\_semi\_af1

(TMEtJ8uu9X3vAc3RKB8DZjUn2XjbY6V5Rpm)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_semi\_af1 : \iota \Rightarrow o$  be given. Let  $l1\_analoaf : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r3\_semi\_af1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_semi\_af1 X0) \wedge (l1\_analoaf \\
 & \quad X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\
 & \quad (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\
 & \quad (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\
 & \quad (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6.(m1\_subset\_1 \\
 & \quad X6 (u1\_struct\_0 X0)) \Rightarrow (((r3\_semi\_af1 X0 X1 X2 X3 X4) \wedge (r3\_semi\_af1 \\
 & \quad X0 X5 X2 X3 X6)) \Rightarrow (r3\_semi\_af1 X0 X1 X5 X6 X4)))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_semi\_af1 X0) \wedge (l1\_analoaf \\
 & \quad X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\
 & \quad (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\
 & \quad (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\
 & \quad ((r2\_analoaf X0 X1 X2 X3 X4) \Rightarrow ((r2\_analoaf X0 X2 X1 X3 X4) \wedge ((r2\_analoaf \\
 & \quad X0 X1 X2 X4 X3) \wedge ((r2\_analoaf X0 X2 X1 X4 X3) \wedge ((r2\_analoaf X0 X3 X4 X1 \\
 & \quad X2) \wedge ((r2\_analoaf X0 X4 X3 X1 X2) \wedge ((r2\_analoaf X0 X3 X4 X2 X1) \wedge (r2\_analoaf \\
 & \quad X0 X4 X3 X2 X1))))))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_semi\_af1 X0) \wedge (l1\_analoaf \\
 & \quad X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\
 & \quad (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\
 & \quad (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\
 & \quad ((r3\_semi\_af1 X0 X1 X2 X3 X4) \Rightarrow (r2\_analoaf X0 X1 X2 X3 X4))))))
 \end{aligned} \tag{3}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_semi\_af1 X0) \wedge (l1\_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6.(m1\_subset\_1 \\ & X6 (u1\_struct\_0 X0)) \Rightarrow (((r3\_semi\_af1 X0 X1 X2 X3 X4) \wedge (r3\_semi\_af1 \\ & X0 X5 X2 X3 X6)) \Rightarrow (r2\_analoaf X0 X1 X5 X4 X6)))))))) \end{aligned}$$