

l8\_homothet  
(TMRn2xU1zhq4wiDvbZMBz1pWuqt8iijdT5o)

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Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_diraf : \iota \Rightarrow o$  be given. Let  $v2\_diraf : \iota \Rightarrow o$  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  $r1\_aff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5. \\
& (m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (((r1\_aff\_1 X0 X1 X2 X3) \wedge ((r1\_aff\_1 \\
& X0 X1 X2 X4) \wedge (r1\_aff\_1 X0 X1 X2 X5)))) \Rightarrow ((X1 = X2) \vee (r1\_aff\_1 X0 X3 X4 \\
& X5)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (u1\_struct\_0 X0)) \Rightarrow ((r1\_aff\_1 X0 X1 X1 X2) \wedge ((r1\_aff\_1 X0 X1 X2 \\
& X2) \wedge (r1\_aff\_1 X0 X1 X2 X1))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\
& X0)) \Rightarrow ((r1\_aff\_1 X0 X1 X2 X3) \Rightarrow ((r1\_aff\_1 X0 X1 X3 X2) \wedge ((r1\_aff\_1 \\
& X0 X2 X1 X3) \wedge ((r1\_aff\_1 X0 X2 X3 X1) \wedge ((r1\_aff\_1 X0 X3 X1 X2) \wedge (r1\_aff\_1 \\
& X0 X3 X2 X1))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow ((r2\_analoaf \\
& X0 X1 X2 X3 X4) \Rightarrow ((r2\_analoaf X0 X1 X2 X4 X3) \wedge ((r2\_analoaf X0 X2 X1 X3 \\
& X4) \wedge ((r2\_analoaf X0 X2 X1 X4 X3) \wedge ((r2\_analoaf X0 X3 X4 X1 X2) \wedge ((r2\_analoaf \\
& X0 X3 X4 X2 X1) \wedge ((r2\_analoaf X0 X4 X3 X1 X2) \wedge (r2\_analoaf X0 X4 X3 X2 \\
& X1)))))))))) \\
& \tag{4}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge ((v2\_diraf X0) \wedge \\
& (l1\_analoaf X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 \\
& (u1\_struct\_0 X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow \\
& (((r1\_aff\_1 X0 X1 X2 X3) \wedge (r1\_aff\_1 X0 X1 X2 X4)) \Rightarrow ((X1 = X2) \vee ((X1 = \\
& X3) \vee (((\neg(\neg r1\_aff\_1 X0 X1 X2 X5) \wedge ((r1\_aff\_1 X0 X1 X5 X4) \wedge (r2\_analoaf \\
& X0 X2 X5 X3 X4)) \wedge (\neg(r1\_aff\_1 X0 X1 X2 X5) \wedge (\exists X6.(m1\_subset\_1 \\
& X6 (u1\_struct\_0 X0)) \wedge (\exists X7.(m1\_subset\_1 X7 (u1\_struct\_0 \\
& X0)) \wedge ((\neg r1\_aff\_1 X0 X1 X2 X6) \wedge ((r1\_aff\_1 X0 X1 X6 X7) \wedge ((r2\_analoaf \\
& X0 X2 X6 X3 X7) \wedge ((r2\_analoaf X0 X6 X5 X7 X4) \wedge (r1\_aff\_1 X0 X1 X2 X4)))))))))) \vee \\
& (r1\_aff\_1 X0 X1 X2 X5)))))) \\
& \tag{5}
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge ((v2\_diraf X0) \wedge \\
& (l1\_analoaf X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 \\
& (u1\_struct\_0 X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow \\
& ((r1\_aff\_1 X0 X1 X2 X3) \Rightarrow ((X1 = X2) \vee ((X1 = X3) \vee (((\neg(\neg r1\_aff\_1 X0 X1 \\
& X2 X4) \wedge ((r1\_aff\_1 X0 X1 X4 X5) \wedge (r2\_analoaf X0 X2 X4 X3 X5))) \wedge (\neg(r1\_aff\_1 \\
& X0 X1 X2 X4) \wedge (\exists X6.(m1\_subset\_1 X6 (u1\_struct\_0 X0)) \wedge (\exists X7. \\
& (m1\_subset\_1 X7 (u1\_struct\_0 X0)) \wedge ((\neg r1\_aff\_1 X0 X1 X2 X6) \wedge ((r1\_aff\_1 \\
& X0 X1 X6 X7) \wedge ((r2\_analoaf X0 X2 X6 X3 X7) \wedge ((r2\_analoaf X0 X6 X4 X7 X5) \wedge \\
& (r1\_aff\_1 X0 X1 X2 X5)))))))))) \vee ((X1 \neq X3) \wedge ((X1 \neq X2) \wedge ((r1\_aff\_1 \\
& X0 X1 X3 X2) \wedge (((\neg r1\_aff\_1 X0 X1 X3 X5) \wedge ((r1\_aff\_1 X0 X1 X5 X4) \wedge (r2\_analoaf \\
& X0 X3 X5 X2 X4)) \vee ((r1\_aff\_1 X0 X1 X3 X5) \wedge (\exists X6.(m1\_subset\_1 \\
& X6 (u1\_struct\_0 X0)) \wedge (\exists X7.(m1\_subset\_1 X7 (u1\_struct\_0 \\
& X0)) \wedge ((\neg r1\_aff\_1 X0 X1 X3 X6) \wedge ((r1\_aff\_1 X0 X1 X6 X7) \wedge ((r2\_analoaf \\
& X0 X3 X6 X2 X7) \wedge ((r2\_analoaf X0 X6 X5 X7 X4) \wedge (r1\_aff\_1 X0 X1 X3 X4)))))))))))))) \\
& \tag{6}
\end{aligned}$$