

19\_aff\_4 (TM-  
byQko3EA3E6wozjAa9rZgwmuWoHUauLtP)

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Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_diraf : \iota \Rightarrow o$  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  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r5\_aff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5. \\
& (m1\_subset\_1 X5 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\forall X6. \\
& (m1\_subset\_1 X6 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (((X1 \in X5) \wedge \\
& (X2 \in X5) \wedge (X3 \in X6)) \Rightarrow (((\neg r5\_aff\_1 X0 X5 X6) \wedge (\neg r5\_aff\_1 X0 X6 X5)) \vee \\
& ((X1 = X2) \vee (((\neg r2\_analoaf X0 X1 X2 X3 X4) \wedge (\neg r2\_analoaf X0 X3 X4 X1 \\
& X2)) \vee (X4 \in X6))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow \\
& \quad ((\neg \forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\
& (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (X1 = X2))) \wedge ((\forall X1.(m1\_subset\_1 \\
& \quad X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\
& \quad X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4. \\
& \quad (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 \\
& \quad (u1\_struct\_0 X0)) \Rightarrow (\forall X6.(m1\_subset\_1 X6 (u1\_struct\_0 X0)) \Rightarrow \\
& ((r2\_analoaf X0 X1 X2 X2 X1) \wedge (r2\_analoaf X0 X1 X2 X3 X3) \wedge (((r2\_analoaf \\
& X0 X1 X2 X3 X4) \wedge (r2\_analoaf X0 X1 X2 X5 X6)) \Rightarrow ((X1 = X2) \vee (r2\_analoaf \\
& X0 X3 X4 X5 X6))) \wedge ((r2\_analoaf X0 X1 X2 X1 X3) \Rightarrow (r2\_analoaf X0 X2 X1 \\
& \quad X2 X3)))))) \wedge ((\neg \forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\
& \quad X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (r2\_analoaf X0 X1 X2 X1 X3)))) \wedge \\
& \quad ((\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 (\exists X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \wedge \\
& ((r2\_analoaf X0 X1 X3 X2 X4) \wedge (X2 \neq X4)))))) \wedge ((\forall X1.(m1\_subset\_1 \\
& \quad X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\
& \quad X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\exists X4. \\
& (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \wedge ((r2\_analoaf X0 X1 X2 X3 X4) \wedge \\
& (r2\_analoaf X0 X1 X3 X2 X4)))))) \wedge (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\
& \quad 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 (\neg (r2\_analoaf X0 X3 X1 X1 X4) \wedge ((X1 \neq X3) \wedge (\forall X5. \\
& (m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\neg (r2\_analoaf X0 X2 X1 X1 X5) \wedge \\
& (r2\_analoaf X0 X2 X3 X4 X5)))))))))))))
\end{aligned} \tag{3}$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf \\
& X0) \wedge (l1\_analoaf X0))) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0))) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \Rightarrow ((r5\_aff\_1 \\
& X0 X1 X2) \Rightarrow (r5\_aff\_1 X0 X2 X1))
\end{aligned} \tag{5}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\ & (\forall X5.(m1\_subset\_1 X5 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\ & (\neg(r5\_aff\_1 X0 X4 X5) \wedge ((X1 \in X4) \wedge ((X2 \in X4) \wedge ((X3 \in X5) \wedge (\forall X6. \\ & (m1\_subset\_1 X6 (u1\_struct\_0 X0)) \Rightarrow (\neg(X6 \in X5) \wedge (r2\_analoaf X0 X1 \\ & X3 X2 X6)))))))))))))) \end{aligned}$$