

t3\_afvect01 (TMEzN-  
VbAzd17J8RVVqYPCYHQACdmgZvzdEm)

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Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_afvect01 : \iota \Rightarrow o$  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  $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(l1\_analoaf X0) \Rightarrow (l1\_struct\_0 X0) \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_analoaf X0)) \Rightarrow ((v1\_afvect01 \\
& \quad X0) \Leftrightarrow ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\
& (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (r2\_analoaf X0 X1 X2 X2 X1))) \wedge \\
& \quad ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.( \\
& m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((r2\_analoaf X0 X1 X2 X1 X1) \Rightarrow ( \\
& \quad X1 = X2)))))) \wedge ((\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 (((r2\_analoaf X0 X1 X2 X5 X6) \wedge (r2\_analoaf \\
& \quad X0 X3 X4 X5 X6)) \Rightarrow (r2\_analoaf X0 X1 X2 X3 X4)))))) \wedge ((\forall X1. \\
& \quad (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\
& \quad (u1\_struct\_0 X0)) \Rightarrow (\exists X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \wedge \\
& \quad (r2\_analoaf X0 X1 X3 X3 X2)))))) \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. \\
& \quad (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 \\
& \quad (u1\_struct\_0 X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow \\
& \quad (((r2\_analoaf X0 X5 X1 X5 X2) \wedge (r2\_analoaf X0 X5 X3 X5 X4)) \Rightarrow ((X1 = X2) \vee \\
& \quad ((X3 = X4) \vee (r2\_analoaf X0 X1 X3 X2 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 (\neg(X1 \neq X2) \wedge (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow \\
& \quad ((\neg(X1 \neq X3) \wedge (r2\_analoaf X0 X1 X2 X2 X3)) \wedge (\forall X4.(m1\_subset\_1 \\
& \quad X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 \\
& \quad X0)) \Rightarrow (\neg(X4 \neq X5) \wedge ((r2\_analoaf X0 X1 X2 X4 X5) \wedge ((r2\_analoaf X0 X1 \\
& \quad X4 X4 X2) \wedge (r2\_analoaf X0 X1 X5 X5 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 \\
& \quad (((r2\_analoaf X0 X1 X2 X2 X6) \wedge ((r2\_analoaf X0 X2 X3 X4 X5) \wedge ((r2\_analoaf \\
& \quad X0 X2 X4 X4 X3) \wedge (r2\_analoaf X0 X2 X5 X5 X3)))) \Rightarrow (r2\_analoaf X0 X1 X3 \\
& \quad X3 X6)))))) \wedge ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& \quad (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& \quad X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\
& \quad X0)) \Rightarrow (\neg(X1 \neq X4) \wedge ((X2 \neq X3) \wedge ((r2\_analoaf X0 X1 X2 X2 X4) \wedge ((r2\_analoaf \\
& \quad X0 X1 X3 X3 X4) \wedge (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow ( \\
& \quad \forall X6.(m1\_subset\_1 X6 (u1\_struct\_0 X0)) \Rightarrow (\neg(X5 \neq X6) \wedge ((r2\_analoaf \\
& \quad X0 X2 X3 X5 X6) \wedge ((r2\_analoaf X0 X2 X5 X5 X3) \wedge (r2\_analoaf X0 X2 X6 X6 \\
& \quad X3)))))) \wedge ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& \quad (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& \quad X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\
& \quad X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6. \\
& \quad (m1\_subset\_1 X6 (u1\_struct\_0 X0)) \Rightarrow (\forall X7.(m1\_subset\_1 X7 \\
& \quad (u1\_struct\_0 X0)) \Rightarrow (\neg(r2\_analoaf X0 X1 X2 X4 X5) \wedge ((r2\_analoaf X0 \\
& \quad X1 X3 X6 X7) \wedge ((r2\_analoaf X0 X1 X4 X4 X2) \wedge ((r2\_analoaf X0 X1 X6 X6 X3) \wedge \\
& \quad ((r2\_analoaf X0 X1 X5 X5 X2) \wedge ((r2\_analoaf X0 X1 X7 X7 X3) \wedge (\forall X8. \\
& \quad (m1\_subset\_1 X8 (u1\_struct\_0 X0)) \Rightarrow (\forall X9.(m1\_subset\_1 X9 \\
& \quad (u1\_struct\_0 X0)) \Rightarrow (\neg(r2\_analoaf X0 X2 X3 X8 X9) \wedge ((r2\_analoaf X0 \\
& \quad X2 X8 X8 X3) \wedge (r2\_analoaf X0 X2 X9 X9 X3)))))) \wedge (2)
\end{aligned}$$

Assume the following.

$$\forall X0.(l1\_struct\_0 X0) \Rightarrow ((\neg v7\_struct\_0 X0) \Rightarrow (\neg v2\_struct\_0 X0)) \quad (3)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_afvect01 X0) \wedge (l1\_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\ & ((r2\_analoaf X0 X1 X2 X3 X4) \Rightarrow (r2\_analoaf X0 X1 X2 X4 X3)))))) \end{aligned}$$