t42_diraf (TMV5p68cJuzoj7HtSAzqkKRNfr8HtPSPffa)

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

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

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_analoaf\ X0)) \Rightarrow ((v1\_diraf\ X0) \Leftrightarrow ((\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 ((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\ X2\ X3))))))))))) \wedge ((\neg \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 (r2\_analoaf\ X0\ X1\ X2\ X1\ X3)))) \wedge ((\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 (\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\ 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 (\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\ 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)))))))))))))) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow((v7\_struct\_0\ X0)\Leftrightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(X1 = X2)))) \tag{3}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_analoaf\ X0))\Rightarrow(((\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\ 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((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\ X2\ X3))))))))))\wedge((\neg\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(r2\_analoaf\ X0\ X1\ X2\ X1\ X3))))\wedge((\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(\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\ 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(\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\ 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))))))))))))\Leftrightarrow((\neg v7\_struct\_0\ X0)\wedge((v1\_diraf\ X0)\wedge(l1\_analoaf\ X0))))$$