t38_equation (TMQbsLSBckScx-EXxrvmMKaA475DqsD2gBRE)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $m3\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k4\_equation : \iota \Rightarrow \iota$ be given. Let $m1\_pralg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_equation : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k14\_pralg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_equation : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge((\neg v11\_struct\_0\ X1)\wedge (l1\_msualg\_1\ X1)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k1\_funct\_1\ (k4\_equation\ X1)\ X2))\Rightarrow(\forall X4.(m1\_pralg\_2\ X4\ X0\ X1)\Rightarrow((\forall X5.\neg(X5 \in X0)\wedge (\forall X6.(l3\_msualg\_1\ X6\ X1)\Rightarrow(\neg(X6 = k1\_funct\_1\ X4\ X5)\wedge(r1\_equation\ X1\ X6\ X2\ X3))))\Rightarrow(r1\_equation\ X1\ (k14\_pralg\_2\ X0\ X1\ X4)\ X2\ X3))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X1)\wedge((\neg v11\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1)))\wedge(m1\_pralg\_2\ X2\ X0\ X1))\Rightarrow(l3\_msualg\_1\ (k14\_pralg\_2\ X0\ X1\ X2)\ X1) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\Rightarrow(\forall X1.(l3\_msualg\_1\ X1\ X0)\Rightarrow(\forall X2.(m3\_pboole\ X2\ (u1\_struct\_0\ X0)\ (k4\_equation\ X0))\Rightarrow((r2\_equation\ X0\ X1\ X2)\Leftrightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (k1\_funct\_1\ (k4\_equation\ X0)\ X3))\Rightarrow((X4 \in k1\_funct\_1\ X2\ X3)\Rightarrow(r1\_equation\ X0\ X1\ X3\ X4))))))) \tag{3}$$

Theorem 1

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge((\neg v11\_struct\_0\ X1)\wedge (l1\_msualg\_1\ X1)))\Rightarrow(\forall X2.(m3\_pboole\ X2\ (u1\_struct\_0\ X1) (k4\_equation\ X1))\Rightarrow(\forall X3.(m1\_pralg\_2\ X3\ X0\ X1)\Rightarrow((\forall X4. \neg(X4\in X0)\wedge(\forall X5.(l3\_msualg\_1\ X5\ X1)\Rightarrow(\neg(X5 = k1\_funct\_1\ X3\ X4)\wedge(r2\_equation\ X1\ X5\ X2))))\Rightarrow(r2\_equation\ X1\ (k14\_pralg\_2\ X0\ X1\ X3)\ X2))))$$