t36_circtrm1 (TMLpEHU9aGCVeg7R2nsS6tpExn9uLJhyV3x)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v4\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5\_circtrm1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_circtrm1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_funct\_1 : \iota \Rightarrow \iota$ be given. Let $v2\_funct\_1 : \iota \Rightarrow o$ be given. Let $r3\_pua2mss1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4\_circtrm1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow ((v1\_relat\_1\ (k2\_funct\_1\ X0)) \wedge (v1\_funct\_1\ (k2\_funct\_1\ X0))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1)) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge (v1\_funct\_1\ X3)) \Rightarrow ((r1\_circtrm1\ X0\ X1\ X2\ X3) \Leftrightarrow ((v2\_funct\_1\ X2) \wedge ((v2\_funct\_1\ X3) \wedge ((r3\_pua2mss1\ X0\ X1\ X2\ X3) \wedge (r3\_pua2mss1\ X1\ X0\ (k2\_funct\_1\ X2)\ (k2\_funct\_1\ X3)))))))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1)) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge (v1\_funct\_1\ X3)) \Rightarrow (\forall X4.((v4\_msualg\_1\ X4\ X0) \wedge (l3\_msualg\_1\ X4\ X0)) \Rightarrow (\forall X5.((v4\_msualg\_1\ X5\ X1) \wedge (l3\_msualg\_1\ X5\ X1)) \Rightarrow ((r5\_circtrm1\ X0\ X1\ X2\ X3\ X4\ X5) \Leftrightarrow ((r4\_circtrm1\ X0\ X1\ X2\ X3\ X4\ X5) \wedge (r4\_circtrm1\ X1\ X0\ (k2\_funct\_1\ X2)\ (k2\_funct\_1\ X3)\ X5\ X4)))))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow(\forall X3.((v1\_relat\_1\ X3)\wedge(v1\_funct\_1\ X3))\Rightarrow(\forall X4.((v4\_msualg\_1\ X4\ X0)\wedge(l3\_msualg\_1\ X4\ X0))\Rightarrow(\forall X5.((v4\_msualg\_1\ X5\ X1)\wedge(l3\_msualg\_1\ X5\ X1))\Rightarrow((r4\_circtrm1\ X0\ X1\ X2\ X3\ X4\ X5)\Leftrightarrow((v2\_funct\_1\ X2)\wedge((v2\_funct\_1\ X3)\wedge((r3\_pua2mss1\ X0\ X1\ X2\ X3)\wedge((u3\_msualg\_1\ X0\ X4 = k3\_relat\_1\ X2\ (u3\_msualg\_1\ X1\ X5))\wedge(u4\_msualg\_1\ X0\ X4 = k3\_relat\_1\ X3\ (u4\_msualg\_1\ X1\ X5))))))))))) \tag{4}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow(\forall X3.((v1\_relat\_1\ X3)\wedge(v1\_funct\_1\ X3))\Rightarrow(\forall X4.((v4\_msualg\_1\ X4\ X0)\wedge(l3\_msualg\_1\ X4\ X0))\Rightarrow(\forall X5.((v4\_msualg\_1\ X5\ X1)\wedge(l3\_msualg\_1\ X5\ X1))\Rightarrow((r5\_circtrm1\ X0\ X1\ X2\ X3\ X4\ X5)\Rightarrow(r1\_circtrm1\ X0\ X1\ X2\ X3)))))))$$