t25_circtrm1 (TMV5RVqUwZTnLHKRYGiHrrdzezHGaAFPCpy)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $r1\_circtrm1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_partfun1 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $r3\_pua2mss1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_funct\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_relat\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v2\_funct\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((v11\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \Rightarrow (r3\_pua2mss1\ X0\ X0\ (k6\_partfun1\ (u1\_struct\_0\ X0))\ (k6\_partfun1\ (u4\_struct\_0\ X0))) \tag{1}$$

Assume the following.

$$\forall X0.k2\_funct\_1\ (k4\_relat\_1\ X0) = k4\_relat\_1\ X0 \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0))) \Rightarrow (r3\_pua2mss1\ X0\ X0\ (k6\_partfun1\ (u1\_struct\_0\ X0))\ (k6\_partfun1\ (u4\_struct\_0\ X0))) \tag{3}$$

Assume the following.

$$\forall X0.k6\_partfun1\ X0 = k4\_relat\_1\ X0 \tag{4}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ (k4\_relat\_1\ X0)) \wedge (v2\_funct\_1\ (k4\_relat\_1\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ (k4\_relat\_1\ X0)) \wedge ((v4\_relat\_1\ (k4\_relat\_1\ X0)\ X0) \wedge ((v1\_funct\_1\ (k4\_relat\_1\ X0)) \wedge (v1\_partfun1\ (k4\_relat\_1\ X0)\ X0))) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0))\Rightarrow(\forall X1.\ ((\neg v2\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow(\forall X3.((v1\_relat\_1\ X3)\wedge(v1\_funct\_1\ X3))\Rightarrow((r1\_circtrm1\ X0\ X1\ X2\ X3)\Leftrightarrow((v2\_funct\_1\ X2)\wedge((v2\_funct\_1\ X3)\wedge((r3\_pua2mss1\ X0\ X1\ X2\ X3)\wedge(r3\_pua2mss1\ X1\ X0\ (k2\_funct\_1\ X2)\ (k2\_funct\_1\ X3)))))))))) \tag{7}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0))\Rightarrow(r1\_circtrm1\ X0\ X0\ (k6\_partfun1\ (u1\_struct\_0\ X0))\ (k6\_partfun1\ (u4\_struct\_0\ X0)))$$