t8_pralg_2 (TMHjvzzXri5EueQ8QyhDMj3HcmLuBvYaBSJ)

October 27, 2020

Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. 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 $m1\_pralg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_pralg\_2 : \iota \Rightarrow \iota$ be given. Let $k12\_pralg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funcop\_1 : \iota \Rightarrow o$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_card\_3 : \iota \Rightarrow \iota$ be given. Let $k2\_funct\_6 : \iota \Rightarrow \iota$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_funcop\_1\ X0))) \Rightarrow ((v1\_relat\_1\ (k1\_funct\_1\ X0\ X1)) \wedge (v1\_funct\_1\ (k1\_funct\_1\ X0\ X1))) \tag{1}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_funcop\_1\ X0))) \Rightarrow ((v1\_relat\_1\ (k2\_pralg\_2\ X0)) \wedge ((v4\_relat\_1\ (k2\_pralg\_2\ X0)\ (k4\_card\_3\ (k2\_funct\_6\ X0))) \wedge ((v1\_funct\_1\ (k2\_pralg\_2\ X0)) \wedge ((v1\_partfun1\ (k2\_pralg\_2\ X0)\ (k4\_card\_3\ (k2\_funct\_6\ X0))) \wedge (v1\_funcop\_1\ (k2\_pralg\_2\ X0))))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0\ X1) \wedge ((\neg v11\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1))) \wedge ((m1\_pralg\_2\ X2\ X0\ X1) \wedge (m1\_subset\_1\ X3\ (u4\_struct\_0\ X1)))) \Rightarrow ((v1\_relat\_1\ (k12\_pralg\_2\ X0\ X1\ X2\ X3)) \wedge ((v4\_relat\_1\ (k12\_pralg\_2\ X0\ X1\ X2\ X3)\ X0) \wedge ((v1\_funct\_1\ (k12\_pralg\_2\ X0\ X1\ X2\ X3)) \wedge ((v1\_partfun1\ (k12\_pralg\_2\ X0\ X1\ X2\ X3)\ X0) \wedge (v1\_funcop\_1\ (k12\_pralg\_2\ X0\ X1\ X2\ X3)))))) \tag{3}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.(X1 = k10\_xtuple\_0\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9\_xtuple\_0\ X0) \wedge (X2 = k1\_funct\_1\ X0\ X3))))) \tag{4}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge ((\neg v11\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1)))\Rightarrow(\forall X2.(m1\_pralg\_2\ X2\ X0\ X1)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u4\_struct\_0\ X1))\Rightarrow(\forall X4.(X4 \in k10\_xtuple\_0\ (k2\_pralg\_2\ (k12\_pralg\_2\ X0\ X1\ X2\ X3)))\Rightarrow((v1\_relat\_1\ X4)\wedge(v1\_funct\_1\ X4))))))$$