t20_equation (TM-FvVc3Vh9DoGsgbKcu9Fb854X3FRR77xGg)

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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 $m1\_pralg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_msualg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_card\_3 : \iota \Rightarrow \iota$ be given. Let $k9\_pralg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_pralg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k6\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1\ X0\ X1) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((\neg v11\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1))) \Rightarrow (\forall X2.(m1\_pralg\_2\ X2\ X0\ X1) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u4\_struct\_0\ X1)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (k3\_msualg\_1\ X1\ X3\ (k14\_pralg\_2\ X0\ X1\ X2))) \Rightarrow (k3\_funct\_2\ (k3\_msualg\_1\ X1\ X3\ (k14\_pralg\_2\ X0\ X1\ X2))\ (k4\_msualg\_1\ X1\ X3\ (k14\_pralg\_2\ X0\ X1\ X2))\ (k5\_msualg\_1\ X1\ X3\ (k14\_pralg\_2\ X0\ X1\ X2))\ X4 \in k4\_card\_3\ (k9\_pralg\_2\ X0\ X1\ (k2\_msualg\_1\ X1\ X3)\ X2))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\Rightarrow(\forall X1.(l3\_msualg\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_msualg\_2\ X2\ X0\ X1)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u4\_struct\_0\ X0))\Rightarrow(\forall X4.(X4 \in k3\_msualg\_1\ X0\ X3\ X2)\Rightarrow(k1\_funct\_1\ (k5\_msualg\_1\ X0\ X3\ X2)\ X4 = k1\_funct\_1\ (k5\_msualg\_1\ X0\ X3\ X1)\ X4))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\Rightarrow(\forall X1.(l3\_msualg\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_msualg\_2\ X2\ X0\ X1)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u4\_struct\_0\ X0))\Rightarrow(\forall X4.(X4 \in k3\_msualg\_1\ X0\ X3\ X2)\Rightarrow(X4 \in k3\_msualg\_1\ X0\ X3\ X1))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge(m1\_subset\_1\ X3\ X0)))\Rightarrow(k3\_funct\_2\ X0\ X1\ X2\ X3 = k1\_funct\_1\ X2\ X3) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1))\wedge(m1\_pralg\_2\ X2\ X0\ X1))\Rightarrow((v1\_relat\_1\ (k10\_pralg\_2\ X0\ X1\ X2))\wedge((v2\_relat\_1\ (k10\_pralg\_2\ X0\ X1\ X2))\wedge((v4\_relat\_1\ (k10\_pralg\_2\ X0\ X1\ X2)\ (u1\_struct\_0\ X1))\wedge((v1\_funct\_1\ (k10\_pralg\_2\ X0\ X1\ X2))\wedge(v1\_partfun1\ (k10\_pralg\_2\ X0\ X1\ X2)\ (u1\_struct\_0\ X1)))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X1)\wedge((\neg v11\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1)))\wedge(m1\_pralg\_2\ X2\ X0\ X1))\Rightarrow(v4\_msualg\_1\ (k14\_pralg\_2\ X0\ X1\ X2)\ X1) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\wedge((m1\_subset\_1\ X1\ (u4\_struct\_0\ X0))\wedge(l3\_msualg\_1\ X2\ X0)))\Rightarrow((v1\_funct\_1\ (k5\_msualg\_1\ X0\ X1\ X2))\wedge((v1\_funct\_2\ (k5\_msualg\_1\ X0\ X1\ X2)\ (k3\_msualg\_1\ X0\ X1\ X2)\ (k4\_msualg\_1\ X0\ X1\ X2))\wedge(m1\_subset\_1\ (k5\_msualg\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k3\_msualg\_1\ X0\ X1\ X2)\ (k4\_msualg\_1\ X0\ X1\ X2)))))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\wedge((m1\_subset\_1\ X1\ (u4\_struct\_0\ X0))\wedge(l3\_msualg\_1\ X2\ X0)))\Rightarrow(m1\_subset\_1\ (k3\_msualg\_1\ X0\ X1\ X2)\ (k10\_xtuple\_0\ (k6\_finseq\_2\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X2)))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\wedge(m1\_subset\_1\ X1\ (u4\_struct\_0\ X0)))\Rightarrow(m1\_subset\_1\ (k2\_msualg\_1\ X0\ X1)\ (u1\_struct\_0\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X1)\wedge((\neg v11\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1)))\wedge(m1\_pralg\_2\ X2\ X0\ X1))\Rightarrow(l3\_msualg\_1\ (k14\_pralg\_2\ X0\ X1\ X2)\ X1) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1))\wedge(m1\_pralg\_2\ X2\ X0\ X1))\Rightarrow((v1\_relat\_1\ (k10\_pralg\_2\ X0\ X1\ X2))\wedge((v4\_relat\_1\ (k10\_pralg\_2\ X0\ X1\ X2)\ (u1\_struct\_0\ X1))\wedge((v1\_funct\_1\ (k10\_pralg\_2\ X0\ X1\ X2))\wedge(v1\_partfun1\ (k10\_pralg\_2\ X0\ X1\ X2)\ (u1\_struct\_0\ X1))))) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1))\Rightarrow(\forall X2.(m1\_pralg\_2\ X2\ X0\ X1)\Rightarrow(\forall X3.((v1\_relat\_1\ X3)\wedge((v4\_relat\_1\ X3\ (u1\_struct\_0\ X1))\wedge((v1\_funct\_1\ X3)\wedge(v1\_partfun1\ X3\ (u1\_struct\_0\ X1)))))\Rightarrow((X3 = k10\_pralg\_2\ X0\ X1\ X2)\Leftrightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X1))\Rightarrow(k1\_funct\_1\ X3\ X4 = k4\_card\_3\ (k9\_pralg\_2\ X0\ X1\ X4\ X2)))))) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\wedge((m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\wedge(m1\_pralg\_2\ X3\ X1\ X0)))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (k1\_funct\_1\ (k10\_pralg\_2\ X1\ X0\ X3)\ X2))\Rightarrow((v1\_relat\_1\ X4)\wedge(v1\_funct\_1\ X4))) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0))\wedge((v4\_msualg\_1\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k10\_xtuple\_0\ (k6\_finseq\_2\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1))))\Rightarrow(\neg v1\_xboole\_0\ X2)) \tag{15}$$

Theorem 1

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge((\neg v11\_struct\_0\ X1)\wedge (l1\_msualg\_1\ X1)))\Rightarrow(\forall X2.(m1\_pralg\_2\ X2\ X0\ X1)\Rightarrow(\forall X3. (m1\_msualg\_2\ X3\ X1\ (k14\_pralg\_2\ X0\ X1\ X2))\Rightarrow(\forall X4.(m1\_subset\_1 X4\ (u4\_struct\_0\ X1))\Rightarrow(\forall X5.(X5 \in k3\_msualg\_1\ X1\ X4\ X3)\Rightarrow(((v1\_relat\_1\ (k1\_funct\_1\ (k5\_msualg\_1\ X1\ X4\ X3)\ X5))\wedge(v1\_funct\_1 (k1\_funct\_1\ (k5\_msualg\_1\ X1\ X4\ X3)\ X5)))\wedge((v1\_relat\_1\ (k1\_funct\_1 (k5\_msualg\_1\ X1\ X4\ (k14\_pralg\_2\ X0\ X1\ X2))\ X5))\wedge(v1\_funct\_1\ (k1\_funct\_1 (k5\_msualg\_1\ X1\ X4\ (k14\_pralg\_2\ X0\ X1\ X2))\ X5))))))))$$