t2_topalg_4 (TMJqPTcXm8wD4iJCxZgAo8cnhVUZXVE1CJ4)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l3\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_group\_7 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $np\_\_2 : \iota$ be given. Let $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_topalg\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_group\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k10\_finseq\_1\ X0\ X1 = k10\_finseq\_1\ X2\ X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0\ X0) \wedge (l3\_algstr\_0\ X0)) \wedge (((\neg v2\_struct\_0\ X1) \wedge (l3\_algstr\_0\ X1)) \wedge ((m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X3\ (u1\_struct\_0\ X1))))) \Rightarrow (k5\_group\_7\ X0\ X1\ X2\ X3 = k10\_finseq\_1\ X2\ X3) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0\ X0) \wedge (l3\_algstr\_0\ X0)) \wedge (((\neg v2\_struct\_0\ X1) \wedge (l3\_algstr\_0\ X1)) \wedge ((m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X3\ (u1\_struct\_0\ X1))))) \Rightarrow (m1\_subset\_1\ (k5\_group\_7\ X0\ X1\ X2\ X3)\ (u1\_struct\_0\ (k2\_group\_7\ (k2\_tarski\ np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X0\ X1)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.$$
$$(((\neg v2\_struct\_0\ X0)\wedge(l3\_algstr\_0\ X0))\wedge(((\neg v2\_struct\_0\ X1)\wedge$$
$$(l3\_algstr\_0\ X1))\wedge(((\neg v2\_struct\_0\ X2)\wedge(l3\_algstr\_0\ X2))\wedge((($$
$$(\neg v2\_struct\_0\ X3)\wedge(l3\_algstr\_0\ X3))\wedge(((v1\_funct\_1\ X4)\wedge((v1\_funct\_2$$
$$X4\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X2))\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1$$
$$(k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X2))))))\wedge((v1\_funct\_1$$
$$X5)\wedge((v1\_funct\_2\ X5\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3))\wedge(m1\_subset\_1$$
$$X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3))))))))))\Rightarrow$$
$$((v1\_funct\_1\ (k1\_topalg\_4\ X0\ X1\ X2\ X3\ X4\ X5))\wedge((v1\_funct\_2\ (k1\_topalg\_4$$
$$X0\ X1\ X2\ X3\ X4\ X5)\ (u1\_struct\_0\ (k2\_group\_7\ (k2\_tarski\ np\_\_1\ np\_\_2)$$
$$(k10\_finseq\_1\ X0\ X1)))\ (u1\_struct\_0\ (k2\_group\_7\ (k2\_tarski\ np\_\_1$$
$$np\_\_2)\ (k10\_finseq\_1\ X2\ X3))))\wedge(m1\_subset\_1\ (k1\_topalg\_4\ X0\ X1$$
$$X2\ X3\ X4\ X5)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k2\_group\_7$$
$$(k2\_tarski\ np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X0\ X1)))\ (u1\_struct\_0\ (k2\_group\_7$$
$$(k2\_tarski\ np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X2\ X3))))))))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l3\_algstr\_0\ X0))\Rightarrow(\forall X1.$$
$$((\neg v2\_struct\_0\ X1)\wedge(l3\_algstr\_0\ X1))\Rightarrow(\forall X2.((\neg v2\_struct\_0$$
$$X2)\wedge(l3\_algstr\_0\ X2))\Rightarrow(\forall X3.((\neg v2\_struct\_0\ X3)\wedge(l3\_algstr\_0$$
$$X3))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (u1\_struct\_0$$
$$X0)\ (u1\_struct\_0\ X2))\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1$$
$$(u1\_struct\_0\ X0)\ (u1\_struct\_0\ X2))))))\Rightarrow(\forall X5.((v1\_funct\_1$$
$$X5)\wedge((v1\_funct\_2\ X5\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3))\wedge(m1\_subset\_1$$
$$X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3))))))\Rightarrow$$
$$(\forall X6.((v1\_funct\_1\ X6)\wedge((v1\_funct\_2\ X6\ (u1\_struct\_0\ (k2\_group\_7$$
$$(k2\_tarski\ np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X0\ X1)))\ (u1\_struct\_0\ (k2\_group\_7$$
$$(k2\_tarski\ np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X2\ X3))))\wedge(m1\_subset\_1$$
$$X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k2\_group\_7\ (k2\_tarski$$
$$np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X0\ X1)))\ (u1\_struct\_0\ (k2\_group\_7\ ($$
$$k2\_tarski\ np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X2\ X3))))))))\Rightarrow((X6 = k1\_topalg\_4$$
$$X0\ X1\ X2\ X3\ X4\ X5)\Leftrightarrow(\forall X7.(m1\_subset\_1\ X7\ (u1\_struct\_0\ (k2\_group\_7$$
$$(k2\_tarski\ np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X0\ X1))))\Rightarrow(\exists X8.($$
$$m1\_subset\_1\ X8\ (u1\_struct\_0\ X0))\wedge(\exists X9.(m1\_subset\_1\ X9$$
$$(u1\_struct\_0\ X1))\wedge((X7 = k5\_group\_7\ X0\ X1\ X8\ X9)\wedge(k3\_funct\_2\ (u1\_struct\_0$$
$$(k2\_group\_7\ (k2\_tarski\ np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X0\ X1)))\ (u1\_struct\_0$$
$$(k2\_group\_7\ (k2\_tarski\ np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X2\ X3)))\ X6\ X7 =$$
$$k5\_group\_7\ X2\ X3\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X2)$$
$$X4\ X8)\ (k3\_funct\_2\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3)\ X5\ X9))))))))))))) \tag{5}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l3\_algstr\_0\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l3\_algstr\_0\ X1))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge(l3\_algstr\_0\ X2))\Rightarrow(\forall X3.((\neg v2\_struct\_0\ X3)\wedge(l3\_algstr\_0\ X3))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X2))\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X2))))))\Rightarrow(\forall X5.((v1\_funct\_1\ X5)\wedge((v1\_funct\_2\ X5\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3))\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3))))))\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X0))\Rightarrow(\forall X7.(m1\_subset\_1\ X7\ (u1\_struct\_0\ X1))\Rightarrow(k3\_funct\_2\ (u1\_struct\_0\ (k2\_group\_7\ (k2\_tarski\ np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X0\ X1)))\ (u1\_struct\_0\ (k2\_group\_7\ (k2\_tarski\ np\_\_1\ np\_\_2)\ (k10\_finseq\_1\ X2\ X3)))\ (k1\_topalg\_4\ X0\ X1\ X2\ X3\ X4\ X5)\ (k5\_group\_7\ X0\ X1\ X6\ X7) = k5\_group\_7\ X2\ X3\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X2)\ X4\ X6)\ (k3\_funct\_2\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3)\ X5\ X7)))))))))$$