t20_groeb_3 (TMWZfKWh2UXpBbL2Gode2b153hNYgcQ487G)

October 27, 2020

Let $v3\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15\_pre\_poly : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_2 : \iota \Rightarrow o$ be given. Let $v4\_relat\_2 : \iota \Rightarrow o$ be given. Let $v6\_relat\_2 : \iota \Rightarrow o$ be given. Let $v8\_relat\_2 : \iota \Rightarrow o$ 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 $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ 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 $v1\_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_card\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_valued\_0 : \iota \Rightarrow o$ be given. Let $v2\_pre\_poly : \iota \Rightarrow o$ be given. Let $k3\_groeb\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_groeb\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v3\_ordinal1\ X0) \Rightarrow (\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0)) \wedge ((v1\_relat\_2\ X1) \wedge ((v4\_relat\_2\ X1) \wedge ((v6\_relat\_2\ X1) \wedge ((v8\_relat\_2\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_partfun1\ X2\ X0) \wedge ((v4\_valued\_0\ X2) \wedge (v2\_pre\_poly\ X2)))))) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge ((v4\_relat\_1\ X3\ X0) \wedge ((v1\_funct\_1\ X3) \wedge ((v1\_partfun1\ X3\ X0) \wedge ((v4\_valued\_0\ X3) \wedge (v2\_pre\_poly\ X3)))))) \Rightarrow ((r1\_termord\ X0\ X1\ X2\ X3) \Leftrightarrow (\neg r2\_termord\ X0\ X1\ X3\ X2)))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3\_ordinal1\ X0)\wedge(((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\wedge(((\neg v2\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge(l2\_algstr\_0\ X2)))))\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\wedge(m1\_subset\_1\ X4\ k5\_numbers)))))\Rightarrow((v1\_finset\_1\ (k3\_groeb\_3\ X0\ X1\ X2\ X3\ X4))\wedge(m1\_subset\_1\ (k3\_groeb\_3\ X0\ X1\ X2\ X3\ X4)\ (k1\_zfmisc\_1\ (k15\_pre\_poly\ X0))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k4\_xboole\_0\ X0\ X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(\neg X3 \in X1))) \tag{3}$$

Assume the following.

$$\forall X0.(v3\_ordinal1\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge(l2\_algstr\_0\ X2)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ k5\_numbers)\Rightarrow(k4\_groeb\_3\ X0\ X1\ X2\ X3\ X4 = k4\_xboole\_0\ (k2\_polynom1\ (k15\_pre\_poly\ X0)\ X2\ X3)\ (k3\_groeb\_3\ X0\ X1\ X2\ X3\ X4)))))) \tag{4}$$

Assume the following.

$$\forall X0.(v3\_ordinal1\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge(l2\_algstr\_0\ X2)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ k5\_numbers)\Rightarrow((r1\_xxreal\_0\ X4\ (k5\_card\_1\ (k2\_polynom1\ (k15\_pre\_poly\ X0)\ X2\ X3)))\Rightarrow(\forall X5.((v1\_finset\_1\ X5)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k15\_pre\_poly\ X0))))\Rightarrow((X5 = k3\_groeb\_3\ X0\ X1\ X2\ X3\ X4)\Leftrightarrow((r1\_tarski\ X5\ (k2\_polynom1\ (k15\_pre\_poly\ X0)\ X2\ X3))\wedge((k5\_card\_1\ X5 = X4)\wedge(\forall X6.((v1\_relat\_1\ X6)\wedge((v4\_relat\_1\ X6\ X0)\wedge((v1\_funct\_1\ X6)\wedge((v1\_partfun1\ X6\ X0)\wedge((v4\_valued\_0\ X6)\wedge(v2\_pre\_poly\ X6))))))\Rightarrow(\forall X7.((v1\_relat\_1\ X7)\wedge((v4\_relat\_1\ X7\ X0)\wedge((v1\_funct\_1\ X7)\wedge((v1\_partfun1\ X7\ X0)\wedge((v4\_valued\_0\ X7)\wedge(v2\_pre\_poly\ X7))))))\Rightarrow(((X6 \in X5)\wedge((X7 \in k2\_polynom1\ (k15\_pre\_poly\ X0)\ X2\ X3)\wedge(r1\_termord\ X0\ X1\ X6\ X7)))\Rightarrow(X7 \in X5)))))))))))))) \tag{5}$$

Theorem 1

$$\forall X0.(v3\_ordinal1\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge(l2\_algstr\_0\ X2)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ k5\_numbers)\Rightarrow((r1\_xxreal\_0\ X4\ (k5\_card\_1\ (k2\_polynom1\ (k15\_pre\_poly\ X0)\ X2\ X3)))\Rightarrow(\forall X5.((v1\_relat\_1\ X5)\wedge((v4\_relat\_1\ X5\ X0)\wedge((v1\_funct\_1\ X5)\wedge((v1\_partfun1\ X5\ X0)\wedge((v4\_valued\_0\ X5)\wedge(v2\_pre\_poly\ X5))))))\Rightarrow(\forall X6.((v1\_relat\_1\ X6)\wedge((v4\_relat\_1\ X6\ X0)\wedge((v1\_funct\_1\ X6)\wedge((v1\_partfun1\ X6\ X0)\wedge((v4\_valued\_0\ X6)\wedge(v2\_pre\_poly\ X6))))))\Rightarrow(((X5 \in k3\_groeb\_3\ X0\ X1\ X2\ X3\ X4)\wedge(X6 \in k4\_groeb\_3\ X0\ X1\ X2\ X3\ X4))\Rightarrow(r2\_termord\ X0\ X1\ X6\ X5)))))))))$$