t19_hahnban1 (TMRewQpDxuehwJcNUfsZjsv3KHfwJY4JfSc)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v3\_group\_1 : \iota \Rightarrow o$ be given. Let $l3\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l1\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ 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 $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_hahnban1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\Rightarrow((r2\_relset\_1\ X0\ X1\ X2\ X3)\Leftrightarrow(X2 = X3)) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\Rightarrow(\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.(l3\_algstr\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{3}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow(\forall X1.(l1\_vectsp\_1\ X1\ X0)\Rightarrow(l2\_algstr\_0\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_algstr\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0\ X0)\wedge(l3\_algstr\_0\ X0))\wedge(((\neg v2\_struct\_0\ X1)\wedge(l1\_vectsp\_1\ X1\ X0))\wedge((m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0))))))))\Rightarrow((v1\_funct\_1\ (k6\_hahnban1\ X0\ X1\ X2\ X3))\wedge((v1\_funct\_2\ (k6\_hahnban1\ X0\ X1\ X2\ X3)\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (k6\_hahnban1\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0))))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l3\_algstr\_0\ X0)\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))))\Rightarrow(m1\_subset\_1\ (k6\_algstr\_0\ X0\ X1\ X2)\ (u1\_struct\_0\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge(m1\_subset\_1\ X3\ X0)))\Rightarrow(m1\_subset\_1\ (k3\_funct\_2\ X0\ X1\ X2\ X3)\ X1) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l3\_algstr\_0\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_vectsp\_1\ X1\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0))))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0))))))\Rightarrow((X4 = k6\_hahnban1\ X0\ X1\ X2\ X3)\Leftrightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X1))\Rightarrow(k3\_funct\_2\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0)\ X4\ X5 = k6\_algstr\_0\ X0\ X2\ (k3\_funct\_2\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0)\ X3\ X5)))))))) \tag{10}$$

Assume the following.

$$\forall X0.(l3\_algstr\_0\ X0)\Rightarrow((v3\_group\_1\ X0)\Leftrightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(k6\_algstr\_0\ X0\ (k6\_algstr\_0\ X0\ X1\ X2)\ X3 = k6\_algstr\_0\ X0\ X1\ (k6\_algstr\_0\ X0\ X2\ X3)))))) \tag{11}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_vectsp\_1\ X1\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0))))))\Rightarrow(r2\_relset\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0)\ (k6\_hahnban1\ X0\ X1\ (k6\_algstr\_0\ X0\ X2\ X3)\ X4)\ (k6\_hahnban1\ X0\ X1\ X2\ (k6\_hahnban1\ X0\ X1\ X3\ X4)))))))$$