l103_toprealb (TMModNBxoYRoDL-raH3xFd5r9QETVhDrKfSt)

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Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $c31\_\_toprealb : \iota$ 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 $k1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_topalg\_2 : \iota$ be given. Let $k5\_toprealb : \iota \Rightarrow \iota$ be given. Let $k2\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $v2\_pre\_topc : \iota \Rightarrow o$ be given. Let $l1\_pre\_topc : \iota \Rightarrow o$ be given. Let $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_topmetr : \iota$ be given. Let $k1\_numbers : \iota$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $k1\_real\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_xcmplx\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_xcmplx\_0 : \iota \Rightarrow o$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_fcont\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_pre\_topc : \iota \Rightarrow o$ be given. Let $v1\_fcont\_1 : \iota \Rightarrow o$ be given. Let $k6\_toprealb : \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v2\_pre\_topc\ X1) \wedge (l1\_pre\_topc\ X1))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))) \Rightarrow (\forall X4.((v1\_funct\_1\ X4) \wedge ((v1\_funct\_2\ X4\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)) \wedge ((v5\_pre\_topc\ X4\ X0\ X1) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)))))))) \Rightarrow (\forall X5.((v1\_funct\_1\ X5) \wedge ((v1\_funct\_2\ X5\ (u1\_struct\_0\ (k1\_pre\_topc\ X0\ X2))\ (u1\_struct\_0\ (k1\_pre\_topc\ X1\ X3))) \wedge (m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k1\_pre\_topc\ X0\ X2))\ (u1\_struct\_0\ (k1\_pre\_topc\ X1\ X3)))))))) \Rightarrow ((X5 = k2\_partfun1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X4\ X2) \Rightarrow (v5\_pre\_topc\ X5\ (k1\_pre\_topc\ X0\ X2)\ (k1\_pre\_topc\ X1\ X3)))))))) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1)) \Leftrightarrow (r1\_tarski\ X0\ X1) \tag{3}$$

Assume the following.

$$u1\_struct\_0\ k3\_topmetr = k1\_numbers \tag{4}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1) \wedge (m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers)) \wedge ((m1\_subset\_1\ np\_\_1\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \tag{6}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{7}$$

Assume the following.

$$k2\_topalg\_2 = k3\_topmetr \tag{8}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (k1\_real\_1\ X0 = k4\_xcmplx\_0\ X0) \tag{9}$$

Assume the following.

$$\exists X0.(v1\_xboole\_0\ X0) \wedge ((v1\_xcmplx\_0\ X0) \wedge ((v1\_xxreal\_0\ X0) \wedge (v1\_xreal\_0\ X0))) \tag{10}$$

Assume the following.

$$k1\_relset\_1\ k1\_numbers\ (k1\_fcont\_1\ (k1\_real\_1\ np\_\_1)\ np\_\_1) = k1\_numbers \tag{11}$$

Assume the following.

$$k1\_pre\_topc\ k2\_topalg\_2\ (k2\_struct\_0\ k2\_topalg\_2) = k2\_topalg\_2 \tag{12}$$

Assume the following.

$$k2\_relset\_1\ k1\_numbers\ (k1\_fcont\_1\ (k1\_real\_1\ np\_\_1)\ np\_\_1) = k1\_numbers \tag{13}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow((v1\_xcmplx\_0\ (k4\_xcmplx\_0\ X0))\wedge (v1\_xreal\_0\ (k4\_xcmplx\_0\ X0))) \tag{14}$$

Assume the following.

$$(\neg v2\_struct\_0\ k3\_topmetr)\wedge((v1\_pre\_topc\ k3\_topmetr)\wedge(v2\_pre\_topc\ k3\_topmetr)) \tag{15}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0)\wedge((v1\_fcont\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))))\Rightarrow((v1\_funct\_1\ (k6\_toprealb\ X0))\wedge((v1\_funct\_2\ (k6\_toprealb\ X0)\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k1\_relset\_1\ k1\_numbers\ X0))))\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_relset\_1\ k1\_numbers\ X0)))))\wedge(v5\_pre\_topc\ (k6\_toprealb\ X0)\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k1\_relset\_1\ k1\_numbers\ X0)))\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_relset\_1\ k1\_numbers\ X0))))))) \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0)\wedge(v1\_xreal\_0\ X1))\Rightarrow((v1\_funct\_1\ (k1\_fcont\_1\ X0\ X1))\wedge((v1\_funct\_2\ (k1\_fcont\_1\ X0\ X1)\ k1\_numbers\ k1\_numbers)\wedge(v1\_fcont\_1\ (k1\_fcont\_1\ X0\ X1)))) \tag{17}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{18}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow((v1\_funct\_1\ (k6\_toprealb\ X0))\wedge((v1\_funct\_2\ (k6\_toprealb\ X0)\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k1\_relset\_1\ k1\_numbers\ X0))))\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_relset\_1\ k1\_numbers\ X0)))))\wedge(m1\_subset\_1\ (k6\_toprealb\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k1\_relset\_1\ k1\_numbers\ X0))))\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_relset\_1\ k1\_numbers\ X0))))))))) \tag{19}$$

Assume the following.

$$(v2\_pre\_topc\ k3\_topmetr)\wedge(l1\_pre\_topc\ k3\_topmetr) \tag{20}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0)\wedge(v1\_xxreal\_0\ X1))\Rightarrow(m1\_subset\_1\ (k2\_rcomp\_1\ X0\ X1)\ (k1\_zfmisc\_1\ k1\_numbers)) \tag{21}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0)\wedge(v1\_xreal\_0\ X1))\Rightarrow((v1\_funct\_1\ (k1\_fcont\_1\ X0\ X1))\wedge((v1\_funct\_2\ (k1\_fcont\_1\ X0\ X1)\ k1\_numbers\ k1\_numbers)\wedge(m1\_subset\_1\ (k1\_fcont\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))))) \tag{22}$$

Assume the following.

$$(v1\_funct\_1\ c31\_\_toprealb)\wedge((v1\_funct\_2\ c31\_\_toprealb\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_rcomp\_1\ k6\_numbers\ np\_\_1))))\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_rcomp\_1\ k6\_numbers\ np\_\_1)))))\wedge(m1\_subset\_1\ c31\_\_toprealb\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_rcomp\_1\ k6\_numbers\ np\_\_1))))\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_rcomp\_1\ k6\_numbers\ np\_\_1)))))))) \tag{23}$$

Assume the following.

$$c31\_\_toprealb = k2\_partfun1\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k1\_relset\_1\ k1\_numbers\ (k1\_fcont\_1\ (k1\_real\_1\ np\_\_1)\ np\_\_1)))))\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_relset\_1\ k1\_numbers\ (k1\_fcont\_1\ (k1\_real\_1\ np\_\_1)\ np\_\_1)))))\ (k6\_toprealb\ (k1\_fcont\_1\ (k1\_real\_1\ np\_\_1)\ np\_\_1))\ (k5\_toprealb\ (k2\_rcomp\_1\ k6\_numbers\ np\_\_1)) \tag{24}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k1\_numbers))\Rightarrow(k5\_toprealb\ X0 = X0) \tag{25}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow(k2\_struct\_0\ X0 = u1\_struct\_0\ X0) \tag{26}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xxreal\_0\ X0) \tag{27}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \tag{28}$$

Theorem 1

$$(v1\_funct\_1\ c31\_\_toprealb) \wedge ((v1\_funct\_2\ c31\_\_toprealb\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_rcomp\_1\ k6\_numbers\ np\_\_1))))\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_rcomp\_1\ k6\_numbers\ np\_\_1)))))) \wedge ((v5\_pre\_topc\ c31\_\_toprealb\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_rcomp\_1\ k6\_numbers\ np\_\_1)))\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_rcomp\_1\ k6\_numbers\ np\_\_1)))) \wedge (m1\_subset\_1\ c31\_\_toprealb\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_rcomp\_1\ k6\_numbers\ np\_\_1))))\ (u1\_struct\_0\ (k1\_pre\_topc\ k2\_topalg\_2\ (k5\_toprealb\ (k2\_rcomp\_1\ k6\_numbers\ np\_\_1)))))))))$$