l32_o_ring_1 (TM-MVKxM6AMZfHev6vBdiTSUhePTLpn3E2rU)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l6\_algstr\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_o\_ring\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v10\_o\_ring\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k5\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v9\_o\_ring\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v8\_o\_ring\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_o\_ring\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l5\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_o\_ring\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge (m1\_subset\_1\ X1\ X0)) \Rightarrow (k12\_finseq\_1\ X0\ X1 = k5\_finseq\_1\ X1) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l6\_algstr\_0\ X0)) \Rightarrow (\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m2\_finseq\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((X2 = k12\_finseq\_1\ (u1\_struct\_0\ X0)\ X1) \Leftrightarrow ((k3\_finseq\_1\ X2 = np\_\_1) \wedge (k7\_partfun1\ (u1\_struct\_0\ X0)\ X2\ np\_\_1 = X1))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l6\_algstr\_0\ X0)) \Rightarrow (\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow ((v1\_o\_ring\_1\ X1\ X0) \Rightarrow (v9\_o\_ring\_1\ X1\ X0))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l6\_algstr\_0\ X0))\Rightarrow(\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v1\_o\_ring\_1\ X1\ X0)\Rightarrow(v8\_o\_ring\_1\ (k12\_finseq\_1\ (u1\_struct\_0\ X0)\ X1)\ X0))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l6\_algstr\_0\ X0))\Rightarrow(\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v1\_o\_ring\_1\ X1\ X0)\Rightarrow(v2\_o\_ring\_1\ (k12\_finseq\_1\ (u1\_struct\_0\ X0)\ X1)\ X0))) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\Rightarrow(\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0)\Rightarrow((l2\_algstr\_0\ X0)\wedge(l5\_algstr\_0\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.(l1\_algstr\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge(m1\_subset\_1\ X1\ X0))\Rightarrow(m2\_finseq\_1\ (k12\_finseq\_1\ X0\ X1)\ X0) \tag{10}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l6\_algstr\_0\ X0))\Rightarrow(\forall X1.\ (m2\_finseq\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v8\_o\_ring\_1\ X1\ X0)\Leftrightarrow((k3\_finseq\_1\ X1{\neq}k6\_numbers)\wedge(\forall X2.(v7\_ordinal1\ X2)\Rightarrow(\neg(X2{\neq}k6\_numbers)\wedge((r1\_xxreal\_0\ X2\ (k3\_finseq\_1\ X1))\wedge((\neg v5\_o\_ring\_1\ (k7\_partfun1\ (u1\_struct\_0\ X0)\ X1\ X2)\ X0)\wedge(\forall X3.(v7\_ordinal1\ X3)\Rightarrow(\forall X4.\ (v7\_ordinal1\ X4)\Rightarrow(\neg(k7\_partfun1\ (u1\_struct\_0\ X0)\ X1\ X2 = k6\_algstr\_0\ X0\ (k7\_partfun1\ (u1\_struct\_0\ X0)\ X1\ X3)\ (k7\_partfun1\ (u1\_struct\_0\ X0)\ X1\ X4))\wedge((X3{\neq}k6\_numbers)\wedge((\neg r1\_xxreal\_0\ X2\ X3)\wedge((X4{\neq}k6\_numbers)\wedge(\neg r1\_xxreal\_0\ X2\ X4)))))))))))))) \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l6\_algstr\_0\ X0))\Rightarrow(\forall X1.\ (m2\_finseq\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v2\_o\_ring\_1\ X1\ X0)\Leftrightarrow((k3\_finseq\_1\ X1\neq k6\_numbers)\wedge((v1\_o\_ring\_1\ (k7\_partfun1\ (u1\_struct\_0\ X0)\ X1\ np\_\_1)\ X0)\wedge(\forall X2.(v7\_ordinal1\ X2)\Rightarrow(\neg(X2\neq k6\_numbers)\wedge((\neg r1\_xxreal\_0\ (k3\_finseq\_1\ X1)\ X2)\wedge(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\neg(v1\_o\_ring\_1\ X3\ X0)\wedge(k7\_partfun1\ (u1\_struct\_0\ X0)\ X1\ (k1\_nat\_1\ X2\ np\_\_1) = k1\_algstr\_0\ X0\ (k7\_partfun1\ (u1\_struct\_0\ X0)\ X1\ X2)\ X3)))))))))) \tag{12}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l6\_algstr\_0\ X0))\Rightarrow(\forall X1.\ (m2\_finseq\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v10\_o\_ring\_1\ X1\ X0)\Leftrightarrow((k3\_finseq\_1\ X1\neq k6\_numbers)\wedge((v9\_o\_ring\_1\ (k7\_partfun1\ (u1\_struct\_0\ X0)\ X1\ np\_\_1)\ X0)\wedge(\forall X2.(v7\_ordinal1\ X2)\Rightarrow(\neg(X2\neq k6\_numbers)\wedge((\neg r1\_xxreal\_0\ (k3\_finseq\_1\ X1)\ X2)\wedge(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\neg(v9\_o\_ring\_1\ X3\ X0)\wedge(k7\_partfun1\ (u1\_struct\_0\ X0)\ X1\ (k1\_nat\_1\ X2\ np\_\_1) = k1\_algstr\_0\ X0\ (k7\_partfun1\ (u1\_struct\_0\ X0)\ X1\ X2)\ X3)))))))))) \tag{13}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l6\_algstr\_0\ X0))\Rightarrow(\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v1\_o\_ring\_1\ X1\ X0)\Rightarrow(v10\_o\_ring\_1\ (k12\_finseq\_1\ (u1\_struct\_0\ X0)\ X1)\ X0)))$$