

# l26\_o\_ring\_1

(TMbNpJabs17MvKvo5Mxaucc6PiCvxjd2qJT)

October 27, 2020

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  $v8\_o\_ring\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v6\_o\_ring\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_o\_ring\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v5\_o\_ring\_1 : \iota \Rightarrow \iota \Rightarrow o$  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.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\neg(r1\_xxreal\_0 X0 np\_1) \wedge ((X0 \neq k6\_numbers) \wedge (X0 \neq np\_1))) \quad (1)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m2\_finseq\_1 X2 \\ & (u1\_struct\_0 X0)) \Rightarrow ((X2 = k12\_finseq\_1 (u1\_struct\_0 X0) X1) \Leftrightarrow (( \\ & k3\_finseq\_1 X2 = np\_1) \wedge (k7\_partfun1 (u1\_struct\_0 X0) X2 np\_1 = \\ & X1)))))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((v1\_o\_ring\_1 X1 X0) \Rightarrow (v6\_o\_ring\_1 \\ & (k12\_finseq\_1 (u1\_struct\_0 X0) X1) X0))) \quad (4) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((v1\_o\_ring\_1 X1 X0) \Rightarrow (v4\_o\_ring\_1 \\ & (k12\_finseq\_1 (u1\_struct\_0 X0) X1) X0))) \end{aligned} \quad (5)$$

Assume the following.

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

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0) \Rightarrow ((l2\_algstr\_0 X0) \wedge (l5\_algstr\_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0) \Rightarrow (l1\_struct\_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (9)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \Rightarrow (\forall X1. \\ & (m2\_finseq\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((v6\_o\_ring\_1 X1 X0) \Leftrightarrow ((k3\_finseq\_1 \\ & X1 \neq k6\_numbers) \wedge ((v5\_o\_ring\_1 (k7\_partfun1 (u1\_struct\_0 X0) \\ & X1 np\_1) X0) \wedge (\forall X2.(v7\_ordinal1 X2) \Rightarrow (\neg(X2 \neq k6\_numbers) \wedge \\ & ((\neg r1\_xxreal\_0 (k3\_finseq\_1 X1) X2) \wedge (\forall X3.(m1\_subset\_1 \\ & X3 (u1\_struct\_0 X0)) \Rightarrow (\neg(v5\_o\_ring\_1 X3 X0) \wedge (k7\_partfun1 (u1\_struct\_0 \\ & X0) X1 (k1\_nat\_1 X2 np\_1) = k1\_algstr\_0 X0 (k7\_partfun1 (u1\_struct\_0 \\ & X0) X1 X2) X3)))))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \Rightarrow (\forall X1. \\
& (m2\_finseq\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((v4\_oring\_1 X1 X0) \Leftrightarrow ((k3\_finseq\_1 \\
& X1 \neq k6\_numbers) \wedge ((v1\_oring\_1 (k7\_partfun1 (u1\_struct\_0 X0) \\
& X1 np\_1) X0) \wedge (\forall X2.(v7\_ordinal1 X2) \Rightarrow (\neg(X2 \neq k6\_numbers) \wedge \\
& ((\neg r1\_xreal\_0 (k3\_finseq\_1 X1) X2) \wedge (\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 X0)) \Rightarrow (\neg(v1\_oring\_1 X3 X0) \wedge (k7\_partfun1 (u1\_struct\_0 \\
& X0) X1 (k1\_nat\_1 X2 np\_1) = k6\_algstr\_0 X0 (k7\_partfun1 (u1\_struct\_0 \\
& X0) X1 X2) X3))))))))))
\end{aligned} \tag{13}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l6\_algstr\_0 X0)) \Rightarrow (\forall X1. \\
& (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((v1\_oring\_1 X1 X0) \Rightarrow (v8\_oring\_1 \\
& (k12\_finseq\_1 (u1\_struct\_0 X0) X1) X0)))
\end{aligned}$$