

l36_o_ring_1 (TM- SUmAZEZDq7XU5ZuX6CwGpYbHVk7iLX522)

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 $v5_o_ring_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v6_o_ring_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k6_numbers : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m2_finseq_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow ((X2 = k12_finseq_1 (u1_struct_0 X0) X1) \Leftrightarrow ((\\ & k3_finseq_1 X2 = np_1) \wedge (k7_partfun1 (u1_struct_0 X0) X2 np_1 = \\ & X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((v5_o_ring_1 X1 X0) \Rightarrow (v9_o_ring_1 \\ & X1 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((v5_o_ring_1 X1 X0) \Rightarrow (v6_o_ring_1 \\ & (k12_finseq_1 (u1_struct_0 X0) X1) X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 \\ & (u1_struct_0 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (m2_finseq_1 (k12_finseq_1 X0 X1) X0) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow (\forall X1. \\ & (m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow ((v6_oring_1 X1 X0) \Leftrightarrow ((k3_finseq_1 \\ & X1 \neq k6_numbers) \wedge ((v5_oring_1 (k7_partfun1 (u1_struct_0 X0) \\ & X1 np_1) X0) \wedge (\forall X2.(v7_ordinal1 X2) \Rightarrow (\neg (X2 \neq k6_numbers) \wedge \\ & ((\neg r1_xxreal_0 (k3_finseq_1 X1) X2) \wedge (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow (\neg (v5_oring_1 X3 X0) \wedge (k7_partfun1 (u1_struct_0 \\ & X0) X1 (k1_nat_1 X2 np_1) = k1_algstr_0 X0 (k7_partfun1 (u1_struct_0 \\ & X0) X1 X2) X3)))))))))) \quad (9) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow (\forall X1. \\ & (m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow ((v10_oring_1 X1 X0) \Leftrightarrow ((k3_finseq_1 \\ & X1 \neq k6_numbers) \wedge ((v9_oring_1 (k7_partfun1 (u1_struct_0 X0) \\ & X1 np_1) X0) \wedge (\forall X2.(v7_ordinal1 X2) \Rightarrow (\neg (X2 \neq k6_numbers) \wedge \\ & ((\neg r1_xxreal_0 (k3_finseq_1 X1) X2) \wedge (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow (\neg (v9_oring_1 X3 X0) \wedge (k7_partfun1 (u1_struct_0 \\ & X0) X1 (k1_nat_1 X2 np_1) = k1_algstr_0 X0 (k7_partfun1 (u1_struct_0 \\ & X0) X1 X2) X3)))))))))) \quad (10) \end{aligned}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((v5_oring_1 X1 X0) \Rightarrow (v10_oring_1 \\ & (k12_finseq_1 (u1_struct_0 X0) X1) X0))) \end{aligned}$$