

t12\_msscyc\_1  
(TMcSohRQjzYtteCWEftENXkj45Fr4m6Tdbi)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_graph\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k2\_xcmplx\_0 X0 \ k6\_numbers = X0) \quad (2)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow ((\neg r1\_xxreal\_0 (k1\_nat\_1 X1 \ np\_1) X0) \Leftrightarrow (r1\_xxreal\_0 X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (r1\_xxreal\_0 X0 X0) \quad (4)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (k3\_finseq\_1 X0 = k1\_card\_1 X0) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 X0 k5\_numbers) \wedge (v7\_ordinal1 X1)) \Rightarrow (k2\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow ((v1\_xboole\_0 (k1\_card\_1 X0)) \wedge (v1\_card\_1 (k1\_card\_1 X0))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & \quad (\forall X1. (v7\_ordinal1 X1) \Rightarrow (\forall X2. (v7\_ordinal1 X2) \Rightarrow ( \\ & \quad \forall X3. ((v1\_relat\_1 X3) \wedge ((v1\_funct\_1 X3) \wedge (v1\_finseq\_1 X3)))) \Rightarrow \\ & \quad (((r1\_xxreal\_0 np\_1 X1) \wedge ((r1\_xxreal\_0 X1 X2) \wedge (r1\_xxreal\_0 \\ & \quad X2 (k3\_finseq\_1 X0)))) \Rightarrow ((X3 = k1\_graph\_2 X0 X1 X2) \Leftrightarrow ((k2\_nat\_1 ( \\ & \quad k3\_finseq\_1 X3) X1 = k1\_nat\_1 X2 np\_1) \wedge (\forall X4. (v7\_ordinal1 \\ & \quad X4) \Rightarrow ((\neg r1\_xxreal\_0 (k3\_finseq\_1 X3) X4) \Rightarrow (k1\_funct\_1 X3 (k1\_nat\_1 \\ & \quad X4 np\_1) = k1\_funct\_1 X0 (k2\_xcmplx\_0 X1 X4)))))) \wedge ((\neg (r1\_xxreal\_0 \\ & \quad np\_1 X1) \wedge ((r1\_xxreal\_0 X1 X2) \wedge (r1\_xxreal\_0 X2 (k3\_finseq\_1 X0)))) \Rightarrow \\ & \quad ((X3 = k1\_graph\_2 X0 X1 X2) \Leftrightarrow (X3 = k1\_xboole\_0)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 X0 k5\_numbers) \wedge (v7\_ordinal1 X1)) \Rightarrow (k2\_nat\_1 X0 X1 = k2\_nat\_1 X1 X0) \quad (11)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (12)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (v7\_ordinal1 X0) \quad (13)$$

Assume the following.

$$\forall X0. (v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \quad (14)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (15)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v1\_relat\_1 X0) \quad (17)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v1\_funct\_1 X0) \quad (18)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_xboole\_0 X0)) \Rightarrow ((v1\_relat\_1 X0) \wedge (v1\_finseq\_1 X0)) \quad (19)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 \ k5\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 \ k5\_numbers) \Rightarrow (\forall X2.((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge \\ & ((\neg v1\_xboole\_0 X2) \wedge (v1\_finseq\_1 X2)))) \Rightarrow (\neg(r1\_xreal\_0 \ np\_1 \\ & X0) \wedge ((r1\_xreal\_0 X0 \ X1) \wedge ((r1\_xreal\_0 X1 \ (k3\_finseq\_1 X2)) \wedge \\ & (v1\_xboole\_0 (k1\_graph\_2 X2 \ X0 \ X1))))))) \end{aligned}$$