

t12\_group\_7  
(TMMUDV7fQ4GEkcpSrZxr84he4m2inWg4v9e)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_group\_7 : \iota \Rightarrow o$  be given. Let  $v3\_group\_7 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_funct\_7 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_group\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. k5\_funct\_7 \ k1\_xboole\_0 \ X0 = k9\_finseq\_1 \ X0 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 \ X0 \ X1) \Rightarrow ((v1\_xboole\_0 \ X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 \ X0) \wedge (l3\_algstr\_0 \ X0)) \Rightarrow ((v1\_relat\_1 \ (k9\_finseq\_1 \ X0)) \wedge ((v4\_relat\_1 \ (k9\_finseq\_1 \ X0) \ (k1\_tarski \ np\_1)) \wedge ((v1\_funct\_1 \ (k9\_finseq\_1 \ X0)) \wedge ((v1\_partfun1 \ (k9\_finseq\_1 \ X0) \ (k1\_tarski \ np\_1)) \wedge (v1\_group\_7 \ (k9\_finseq\_1 \ X0)))))) \quad (3)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 \ X0) \wedge (((v1\_relat\_1 \ X1) \wedge ((v4\_relat\_1 \ X1 \ X0) \wedge ((v1\_funct\_1 \ X1) \wedge ((v1\_partfun1 \ X1 \ X0) \wedge (v1\_group\_7 \ X1)))))) \wedge (m1\_subset\_1 \ X2 \ X0))) \Rightarrow (k1\_group\_7 \ X0 \ X1 \ X2 = k1\_funct\_1 \ X1 \ X2) \quad (5)$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k1\_tarski X0) \quad (6)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 (k9\_finseq\_1 X0)) \wedge (v1\_funct\_1 (k9\_finseq\_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((X1 = k9\_finseq\_1 X0) \Leftrightarrow ((k9\_xtuple\_0 X1 = k2\_finseq\_1 np\_1) \wedge (k1\_funct\_1 X1 np\_1 = X0))) \quad (8)$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_partfun1 X1 X0) \wedge (v1\_group\_7 X1)))) \Rightarrow ((v3\_group\_7 X1 X0) \Leftrightarrow (\forall X2. (m1\_subset\_1 X2 X0) \Rightarrow (v3\_group\_1 (k1\_group\_7 X0 X1 X2)))))) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k1\_tarski X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (10)$$

**Theorem 1**

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0))) \Rightarrow ((v1\_relat\_1 (k9\_finseq\_1 X0)) \wedge ((v4\_relat\_1 (k9\_finseq\_1 X0) (k1\_tarski np\_1)) \wedge ((v1\_funct\_1 (k9\_finseq\_1 X0)) \wedge ((v1\_partfun1 (k9\_finseq\_1 X0) (k1\_tarski np\_1)) \wedge ((v1\_group\_7 (k9\_finseq\_1 X0)) \wedge (v3\_group\_7 (k9\_finseq\_1 X0) (k1\_tarski np\_1))))))))$$