

# t7\_msualg\_1

(TMH38oAcXUPWB3A5b4TLfJCDk7yT4iDkMup)

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Let  $v11\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $v5\_msualg\_1 : \iota \Rightarrow o$  be given. Let  $l1\_msualg\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v4\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $k10\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l5\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v11\_struct\_0 X0) \wedge ((v13\_struct\_0 X0 np\_1) \wedge ((v5\_msualg\_1 \\ X0) \wedge (l1\_msualg\_1 X0)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u4\_struct\_0 \\ X0)) \Rightarrow (\forall X2. ((v4\_msualg\_1 X2 X0) \wedge (l3\_msualg\_1 X2 X0)) \Rightarrow ( \\ k3\_msualg\_1 X0 X1 X2 = k4\_finseq\_2 (k3\_finseq\_1 (k1\_msualg\_1 X0 \\ X1)) (k10\_msualg\_1 X0 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (v7\_ordinal1 X1) \Rightarrow ( \\ r1\_tarski (k4\_finseq\_2 X1 X0) (k3\_finseq\_2 X0))) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \tag{3}$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ (k3\_finseq\_1 X0 = k1\_card\_1 X0) \tag{4}$$

Assume the following.

$$\forall X0.(v1\_finset\_1 X0) \Rightarrow ((v1\_finset\_1 (k1\_card\_1 X0)) \wedge (v1\_card\_1 (k1\_card\_1 X0))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((v13\_struct\_0 X0 np\_1) \wedge (l1\_msualg\_1 X0)) \wedge ((v4\_msualg\_1 X1 X0) \wedge (l3\_msualg\_1 X1 X0))) \Rightarrow (\neg v1\_xboole\_0 (k10\_msualg\_1 X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 X0 X1) \Rightarrow (m2\_finseq\_1 X2 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1)) \quad (8)$$

Assume the following.

$$\forall X0.(l5\_struct\_0 X0) \Rightarrow (l1\_struct\_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.(l1\_msualg\_1 X0) \Rightarrow (l5\_struct\_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.m1\_finseq\_2 (k3\_finseq\_2 X0) X0 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0 X0) \wedge ((\neg v11\_struct\_0 X0) \wedge (l1\_msualg\_1 X0))) \wedge (m1\_subset\_1 X1 (u4\_struct\_0 X0))) \Rightarrow (m2\_finseq\_2 (k1\_msualg\_1 X0 X1) (u1\_struct\_0 X0) (k3\_finseq\_2 (u1\_struct\_0 X0))) \quad (12)$$

Assume the following.

$$\forall X0.v1\_card\_1 (k1\_card\_1 X0) \quad (13)$$

Assume the following.

$$\forall X0.((v3\_ordinal1 X0) \wedge (v1\_finset\_1 X0)) \Rightarrow (v7\_ordinal1 X0) \quad (14)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0))) \quad (15)$$

Assume the following.

$$\forall X0.(v1\_card\_1 X0) \Rightarrow (v3\_ordinal1 X0) \quad (16)$$

Assume the following.

$$\forall X0.(l1\_struct\_0 X0) \Rightarrow ((v13\_struct\_0 X0 \ np\_1) \Rightarrow ((\neg v2\_struct\_0 X0) \wedge (v7\_struct\_0 X0))) \quad (17)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v11\_struct\_0 X0) \wedge ((v13\_struct\_0 X0 \ np\_1) \wedge ((v5\_msualg\_1 \\ & \quad X0) \wedge (l1\_msualg\_1 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u4\_struct\_0 \\ & \quad X0)) \Rightarrow (\forall X2.((v4\_msualg\_1 X2 X0) \wedge (l3\_msualg\_1 X2 X0)) \Rightarrow ( \\ & \quad r1\_tarski (k3\_msualg\_1 X0 X1 X2) (k3\_finseq\_2 (k10\_msualg\_1 X0 \\ & \quad X2)))))) \end{aligned}$$