

# t11\_afinsq\_1 (TMPc- CPdpK2gLjfYAKUANLwungx5cGuEdAjt)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v5\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_afinsq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_afinsq\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow ((r1\_tarski X0 (k9\_xtuple\_0 X1)) \Rightarrow (k9\_xtuple\_0 (k5\_relat\_1 X1 X0) = X0)) \quad (1)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (\forall X1. (v7\_ordinal1 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Leftrightarrow (r1\_ordinal1 X0 X1))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v3\_ordinal1 X0) \wedge (v3\_ordinal1 X1)) \Rightarrow ((r1\_ordinal1 X0 X1) \Leftrightarrow (r1\_tarski X0 X1)) \quad (3)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k2\_afinsq\_1 X0 = k9\_xtuple\_0 X0) \quad (4)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k1\_afinsq\_1 X0 = k1\_card\_1 X0) \quad (5)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k1\_card\_1 X0 = k9\_xtuple\_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow((v1\_relat\_1 (k5\_relat\_1 X0 X1))\wedge(v1\_funct\_1 (k5\_relat\_1 X0 X1))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v5\_ordinal1 X0)))\wedge(v3\_ordinal1 X1))\Rightarrow((v1\_relat\_1 (k5\_relat\_1 X0 X1))\wedge((v5\_relat\_1 (k5\_relat\_1 X0 X1) (k10\_xtuple\_0 X0))\wedge(v5\_ordinal1 (k5\_relat\_1 X0 X1)))) \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v5\_ordinal1 X0)))\Rightarrow(v3\_ordinal1 (k9\_xtuple\_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_finset\_1 X0)\wedge((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)))\Rightarrow((v1\_relat\_1 (k5\_relat\_1 X1 X0))\wedge(v1\_finset\_1 (k5\_relat\_1 X1 X0))) \quad (10)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v5\_ordinal1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finset\_1 X0))))\Rightarrow(v7\_ordinal1 (k9\_xtuple\_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v3\_ordinal1 X0)\wedge(v3\_ordinal1 X1))\Rightarrow((r1\_ordinal1 X0 X1)\vee(r1\_ordinal1 X1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(v3\_ordinal1 X0) \quad (13)$$

Assume the following.

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

**Theorem 1**

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge((v5\_ordinal1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finset\_1 X1))))\Rightarrow((\neg r1\_xxreal\_0 (k1\_afinsq\_1 X1) X0)\Rightarrow(k2\_afinsq\_1 (k5\_relat\_1 X1 X0) = X0)))$$