

# t15\_afinsq\_1 (TMGLM- sEGe8rCvwjQKkRpdt9DSM7W5GLhirW)

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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  $k1\_afinsq\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v1\_relat\_1 X0) \Rightarrow (((k9\_xtuple\_0 X0 = k1\_xboole\_0) \vee \\ (k10\_xtuple\_0 X0 = k1\_xboole\_0)) \Rightarrow (X0 = k1\_xboole\_0)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0 : \iota \Rightarrow \iota. \forall X1. \exists X2. ((v1\_relat\_1 X2) \wedge \\ (v1\_funct\_1 X2) \wedge (v5\_ordinal1 X2)) \wedge ((k9\_xtuple\_0 X2 = X1) \wedge (\forall X3. \\ (v3\_ordinal1 X3) \Rightarrow (\forall X4. ((v1\_relat\_1 X4) \wedge (v1\_funct\_1 \\ X4) \wedge (v5\_ordinal1 X4)) \Rightarrow (((X3 \in X1) \wedge (X4 = k5\_relat\_1 X2 X3)) \Rightarrow (k1\_funct\_1 \\ X2 X3 = X0 X4)))))) \end{aligned} \quad (2)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (3)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge ((v1\_funct\_1 \\ X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k1\_afinsq\_1 X0 = k1\_card\_1 X0) \quad (4)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge ((v1\_funct\_1 \\ X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k1\_card\_1 X0 = k9\_xtuple\_0 X0) \quad (5)$$

## Theorem 1

$$\begin{aligned} \forall X0. ((v1\_relat\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge ((v1\_funct\_1 \\ X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow ((k1\_afinsq\_1 X0 = k6\_numbers) \Leftrightarrow (X0 = \\ k1\_xboole\_0)) \end{aligned}$$