

# t12\_afinsq\_2 (TMVEdxCemmyspLF- FZmxbAUy6geY9Adg9Luc)

October 27, 2020

Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v5\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k2\_afinsq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_ordinal4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_afinsq\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $k23\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  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.

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (( \\ v1\_funct\_1 X1) \wedge ((v5\_ordinal1 X1) \wedge (v1\_finset\_1 X1)))) \Rightarrow (\forall X2. \\ ((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge ((v5\_ordinal1 X2) \wedge (v1\_finset\_1 \\ X2)))) \Rightarrow (k2\_afinsq\_2 (k1\_ordinal4 X1 X2) (k23\_binop\_2 (k1\_afinsq\_1 \\ X1) X0) = k2\_afinsq\_2 X2 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k2\_afinsq\_2 X0 k6\_numbers = X0) \quad (4)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (v7\_ordinal1 X1)) \Rightarrow (k23\_binop\_2 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k1\_afinsq\_1 X0 = k1\_card\_1 X0) \quad (7)$$

Assume the following.

$$\forall X0. \exists X1. (v1\_relat\_1 X1) \wedge ((v5\_relat\_1 X1 X0) \wedge ((v5\_ordinal1 X1) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_xboole\_0 X1) \wedge (v1\_finset\_1 X1))))) \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k1\_card\_1 X0 = k9\_xtuple\_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (v7\_ordinal1 (k9\_xtuple\_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (v1\_xboole\_0 (k9\_xtuple\_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0. (v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \quad (12)$$

Assume the following.

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

**Theorem 1**

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge ((v5\_ordinal1 X1) \wedge (v1\_finset\_1 X1))))) \Rightarrow (k2\_afinsq\_2 (k1\_ordinal4 X0 X1) (k1\_afinsq\_1 X0) = X1)$$