

t6_afinsq_2 (TMXbNrKkGmVHXE- jpsSG1KM182wc6FxBBoyF)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. 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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k2_afinsq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k7_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $np_0 : \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k23_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((r1_xxreal_0 X1 X0) \Rightarrow (k7_nat_d X1 X0 = k6_numbers))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (3)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (4)$$

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.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow ((\neg v1_xboole_0 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (7)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow (v7_ordinal1 (k9_xtuple_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v5_ordinal1 X0) \wedge (v1_finset_1 X0)))) \wedge (v7_ordinal1 X1) \Rightarrow ((v1_relat_1 (k2_afinsq_2 X0 X1)) \wedge ((v1_funct_1 (k2_afinsq_2 X0 X1)) \wedge ((v5_ordinal1 (k2_afinsq_2 X0 X1)) \wedge (v1_finset_1 (k2_afinsq_2 X0 X1))))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v5_ordinal1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow (\forall X1. (v7_ordinal1 X1) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge ((v5_ordinal1 X2) \wedge (v1_finset_1 X2)))) \Rightarrow ((X2 = k2_afinsq_2 X0 X1) \Leftrightarrow ((k1_afinsq_1 X2 = k7_nat_d (k1_afinsq_1 \\ & X0) X1) \wedge (\forall X3. (v7_ordinal1 X3) \Rightarrow ((X3 \in k1_relset_1 k5_numbers X2) \Rightarrow (k1_funct_1 X2 X3 = k1_funct_1 X0 (k23_binop_2 X3 X1)))))))) \quad (10) \end{aligned}$$

Theorem 1

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge ((v5_ordinal1 X1) \wedge (v1_finset_1 X1)))) \Rightarrow ((r1_xreal_0 (k1_afinsq_1 X1) X0) \Rightarrow (k2_afinsq_2 X1 X0 = k1_xboole_0)))$$