

t15_dist_1 (TMXBx-
ucWYoTzUFG5DZLosQ31PdiTpB6eWwU)

October 27, 2020

Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k9_dist_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k18_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k4_dist_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k10_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 \\ X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow (k18_rvsum_1 (k10_rvsum_1 \\ X1 X0) = k11_binop_2 X0 (k16_rvsum_1 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_finset_1 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\ (k9_dist_1 X0 X1 = k10_rvsum_1 (k4_dist_1 X0 X1) (k3_finseq_1 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ (k3_finseq_1 X0 = k1_card_1 X0) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_finseq_1 X0 k1_numbers) \Rightarrow (k18_rvsum_1 X0 = k16_rvsum_1 \\ X0) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow ((v1_finset_1 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge (v1_funct_1 X1) \wedge (v1_finseq_1 X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_finset_1 X0) \wedge (m1_finseq_1 X1 X0)) \Rightarrow (m2_finseq_1 (k4_dist_1 X0 X1) k1_numbers) \quad (8)$$

Assume the following.

$$\forall X0.v1_card_1 (k1_card_1 X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1 X0) \wedge (v1_funct_1 X0) \wedge (v3_valued_0 X0) \wedge (v1_finseq_1 X0))) \wedge (v1_xreal_0 X1)) \Rightarrow (m2_finseq_1 (k10_rvsum_1 X0 X1) k1_numbers) \quad (10)$$

Assume the following.

$$\forall X0.((v3_ordinal1 X0) \wedge (v1_finset_1 X0)) \Rightarrow (v7_ordinal1 X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0) \Rightarrow (v5_relat_1 X1 X0) \quad (12)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v5_relat_1 X0 k1_numbers)) \Rightarrow ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (14)$$

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.

$$\forall X0.(v1_card_1 X0) \Rightarrow (v3_ordinal1 X0) \quad (16)$$

Theorem 1

$$\forall X0.(v1_finset_1 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow (k16_rvsum_1 (k9_dist_1 X0 X1) = k11_binop_2 (k3_finseq_1 X1) (k18_rvsum_1 (k4_dist_1 X0 X1))))$$