

t5_dist_1 (TMMm-
SEh5QbKDiPjBP7UbhSefRJkZkP1EKB4)

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Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_dist_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rpr_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_dist_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k12_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_dist_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Rightarrow (k5_card_1 (k9_xtuple_0 X1) = k3_finseq_1 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (2)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (k12_binop_2 X0 X1 = k7_xcmplx_0 X0 X1) \quad (4)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (5)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_finset_1 X0)) \Rightarrow (v1_finset_1 (k9_xtuple_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge(v1_funct_1 X1)\wedge(v1_finseq_1 X1)) \quad (8)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (9)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow(m2_subset_1 (k3_finseq_1 X0) k1_numbers k5_numbers) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_finset_1 X0)\wedge(m1_finseq_1 X1 X0))\Rightarrow(v7_ordinal1 (k2_dist_1 X0 X1 X2)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_finseq_1 X1 X0)\Rightarrow(m1_subset_1 (k1_dist_1 X0 X1 X2) (k1_zfmisc_1 (k9_xtuple_0 X1))) \quad (12)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow(\forall X1.(m2_finseq_1 X1 X0)\Rightarrow(\forall X2.k3_dist_1 X0 X1 X2 = k12_binop_2 (k2_dist_1 X0 X1 X2) (k3_finseq_1 X1))) \quad (13)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(k1_rpr_1 X0 X1 = k7_xcmplx_0 (k5_card_1 X1) (k5_card_1 X0))) \quad (14)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow(\forall X1.(m2_finseq_1 X1 X0)\Rightarrow(\forall X2.k2_dist_1 X0 X1 X2 = k5_card_1 (k1_dist_1 X0 X1 X2))) \quad (15)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v1_xreal_0 X0) \quad (16)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0))) \quad (17)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (18)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (19)$$

Theorem 1

$$\forall X0.(v1_finset_1 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow (\forall X2.k3_dist_1 X0 X1 X2 = k1_rpr_1 (k9_xtuple_0 X1) (k1_dist_1 X0 X1 X2)))$$