

t12_dist_1 (TMMgpvmBDL- gaD1Frj6q1m9PQjb2xuK9mTX9)

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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 $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_dist_1 : \iota \Rightarrow \iota$ be given. Let $k5_dist_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_dist_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_dist_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_dist_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_finset_1 X0) \Rightarrow (\forall X1. (m2_finseq_1 X1 X0) \Rightarrow \\ & (\forall X2. (m2_finseq_1 X2 X0) \Rightarrow ((r1_dist_1 X0 X1 X2) \Leftrightarrow (k4_dist_1 \\ & X0 X1 = k4_dist_1 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (\neg v1_xboole_0 (k6_dist_1 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_finset_1 X0) \Rightarrow & ((v1_funct_1 (k7_dist_1 X0)) \wedge ((\\ & v1_funct_2 (k7_dist_1 X0) (k6_dist_1 X0) (k3_finseq_2 k1_numbers)) \wedge \\ & (m1_subset_1 (k7_dist_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k6_dist_1 \\ & X0) (k3_finseq_2 k1_numbers)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (m1_subset_1 (k6_dist_1 X0) (k1_zfmisc_1 (k1_zfmisc_1 (k3_finseq_2 X0)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_finset_1 X0) \wedge (m1_finseq_1 X1 X0)) \Rightarrow (m1_subset_1 (k5_dist_1 X0 X1) (k1_zfmisc_1 (k3_finseq_2 X0))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_finset_1 X0) \Rightarrow & (\forall X1.((v1_funct_1 X1) \wedge ((\\ & v1_funct_2 X1 (k6_dist_1 X0) (k3_finseq_2 k1_numbers)) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 (k6_dist_1 X0) (k3_finseq_2 k1_numbers)))))) \Rightarrow \\ & ((X1 = k7_dist_1 X0) \Leftrightarrow (\forall X2.(m2_subset_1 X2 (k1_zfmisc_1 \\ & (k3_finseq_2 X0)) (k6_dist_1 X0)) \Rightarrow (\exists X3.(m2_finseq_1 X3 \\ & X0) \wedge ((X3 \in X2) \wedge (k3_funct_2 (k6_dist_1 X0) (k3_finseq_2 k1_numbers) \\ & X1 X2 = k4_dist_1 X0 X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_finset_1 X0) \Rightarrow & (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 (k3_finseq_2 X0)))) \Rightarrow ((X1 = k6_dist_1 X0) \Leftrightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k3_finseq_2 X0)) \Rightarrow ((X2 \in X1) \Leftrightarrow (\exists X3. \\ & (m2_finseq_1 X3 X0) \wedge (X2 = k5_dist_1 X0 X3)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow (k5_dist_1 X0 X1 = \text{ReplSep} (\text{toset} (\lambda X2 : \iota.m2_finseq_1 X2 X0)) (\lambda X2 : \iota.r1_dist_1 X0 X1 X2) (\lambda X2 : \iota.X2))) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (13)$$

Theorem 1

$$\forall X0.(v1_finset_1 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow (k1_funct_1 (k7_dist_1 X0) (k5_dist_1 X0 X1) = k4_dist_1 X0 X1))$$