

t5_uproots (TMMipc- sEooG3yMJowL7gGgiwz3kGMwTw8rv)

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Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_funct_1 : \iota \Rightarrow \iota$ be given. Let $k1_uproots : \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (k3_finseq_1 (k1_uproots X0) = k5_card_1 X0) \quad (1)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v2_funct_1 X0) \Rightarrow ((k10_xtuple_0 X0 = k9_xtuple_0 (k2_funct_1 X0)) \wedge (k9_xtuple_0 X0 = k10_xtuple_0 (k2_funct_1 X0)))) \quad (2)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 (k9_xtuple_0 X0) (k10_xtuple_0 X0)) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 (k9_xtuple_0 X0) (k10_xtuple_0 X0)))))) \quad (3)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (5)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v2_funct_1 X0))) \Rightarrow ((v1_relat_1 (k2_funct_1 X0)) \wedge ((v1_funct_1 (k2_funct_1 X0)) \wedge (v2_funct_1 (k2_funct_1 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow ((v2_funct_1 (k1_uproots X0)) \wedge (v2_funct_2 (k1_uproots X0) X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Rightarrow ((v1_funct_1 X1) \wedge (v1_finseq_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge (v1_funct_1 X1) \wedge (v1_finseq_1 X1)) \quad (9)$$

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.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (m2_finseq_1 (k1_uproots X0) X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (v2_funct_2 X1 X0) \Leftrightarrow (k2_relset_1 X0 X1 = X0) \quad (12)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow ((X1 = k3_finseq_1 X0) \Leftrightarrow (k2_finseq_1 X1 = k9_xtuple_0 X0))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0) \Rightarrow (v5_relat_1 X1 X0) \quad (14)$$

Theorem 1

$$\forall X0.(v1_finset_1 X0) \Rightarrow ((v1_funct_1 (k2_funct_1 (k1_uproots X0))) \wedge ((v1_funct_2 (k2_funct_1 (k1_uproots X0)) X0 (k2_finseq_1 (k5_card_1 X0))) \wedge (m1_subset_1 (k2_funct_1 (k1_uproots X0)) (k1_zfmisc_1 (k2_zfmisc_1 X0 (k2_finseq_1 (k5_card_1 X0)))))))$$