

t79_exchsort
(TMVMim6Qq5cr9DPmunTRGoUyMwimNnGyq1D)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_exchsort : \iota \Rightarrow o$ be given. Let $v2_exchsort : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_exchsort : \iota \Rightarrow \iota$ be given. Let $k1_ordinal1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k4_card_1 : \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. X0 \in k1_ordinal1 X0 \tag{1}$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (\neg(X0 \neq k6_numbers) \wedge (\forall X1. (v7_ordinal1 X1) \Rightarrow (X0 \neq k1_nat_1 X1 np_1))) \tag{2}$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \tag{3}$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (k4_card_1 X0 = k1_nat_1 X0 np_1) \tag{4}$$

Assume the following.

$$\forall X0. (v3_ordinal1 X0) \Rightarrow (k3_tarski (k1_ordinal1 X0) = X0) \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v5_relat_1 X1 X0) \wedge (v1_funct_1 X1))) \Rightarrow (\forall X2. (X2 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X1 X2 \in X0)) \tag{6}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (k4_card_1 X0 = k1_ordinal1 X0) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v1_relat_1 X0)) \Rightarrow (\neg v1_xboole_0 (k9_xtuple_0 X0)) \quad (9)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (10)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow (v7_ordinal1 (k9_xtuple_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_exhsort X0))) \Rightarrow (k4_exhsort X0 = k1_funct_1 X0 (k3_tarski (k9_xtuple_0 X0))) \quad (12)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_exhsort X0) \wedge (v2_exhsort X0 k1_xboole_0)))) \Rightarrow ((v5_ordinal1 X0) \wedge ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_exhsort X0)))) \quad (13)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \quad (14)$$

Theorem 1

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v5_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 X1) \wedge ((v1_exhsort X1) \wedge (v2_exhsort X1 k1_xboole_0)))))) \Rightarrow ((X1 \neq k1_xboole_0) \Rightarrow (k4_exhsort X1 \in X0))$$