

t22_exchsort (TMQjQMkSCwbWujpe- oNh4MXqfwAL4WouTonP)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_exchsort : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_exchsort : \iota \Rightarrow \iota$ be given. Let $k1_exchsort : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k2_ordinal2 : \iota \Rightarrow \iota$ be given. Let $k3_ordinal2 : \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $v2_exchsort : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v3_exchsort : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (v3_ordinal1 X0) \Rightarrow (\forall X1. (v3_ordinal1 X1) \Rightarrow ((k6_subset_1 X0 X1 \neq k1_xboole_0) \Rightarrow ((k2_ordinal2 (k6_subset_1 X0 X1) = X1) \wedge ((k3_ordinal2 (k6_subset_1 X0 X1) = X0) \wedge (k3_tarski (k6_subset_1 X0 X1) = k3_tarski X0)))))) \quad (2)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (v2_exchsort X0 (k1_exchsort X0)) \quad (4)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (k2_exchsort X0 = k3_ordinal2 (k9_xtuple_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0. (v3_ordinal1 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (((v2_exchsort X1 X0) \wedge (v1_exchsort X1)) \Leftrightarrow (\exists X2. (v3_ordinal1 X2) \wedge ((k9_xtuple_0 X1 = k6_subset_1 X2 X0) \wedge (r1_ordinal1 X0 X2)))))) \quad (6)$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.m1_subset_1 \ (k6_subset_1 \ X0 \ X1) \ (k1_zfmisc_1 \ X0) \quad (8)$$

Assume the following.

$$\forall X0.((v1_relat_1 \ X0)\wedge(v1_funct_1 \ X0))\Rightarrow(v3_ordinal1 \ (k2_exhsort \ X0)) \quad (9)$$

Assume the following.

$$\forall X0.((v1_relat_1 \ X0)\wedge(v1_funct_1 \ X0))\Rightarrow(v3_ordinal1 \ (k1_exhsort \ X0)) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 \ X0)\wedge(v1_funct_1 \ X0))\Rightarrow(\forall X1.(v3_ordinal1 \\ X1)\Rightarrow(((\exists X2.(v3_ordinal1 \ X2)\wedge(X2 \in k9_xtuple_0 \ X0))\Rightarrow((\\ X1 = k2_exhsort \ X0)\Leftrightarrow(v3_exhsort \ X0 \ X1))))\wedge((\forall X2.(v3_ordinal1 \\ X2)\Rightarrow(\neg X2 \in k9_xtuple_0 \ X0))\Rightarrow((X1 = k2_exhsort \ X0)\Leftrightarrow(X1 = k1_xboole_0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(v1_xboole_0 \ X0)\Rightarrow(\forall X1.(m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0))\Rightarrow(v1_xboole_0 \ X1)) \quad (12)$$

Theorem 1

$$\forall X0.((v1_relat_1 \ X0)\wedge((v1_funct_1 \ X0)\wedge(v1_exhsort \ X0)))\Rightarrow(k9_xtuple_0 \ X0 = k6_subset_1 \ (k2_exhsort \ X0) \ (k1_exhsort \ X0))$$