

t9_exchsort (TMNDhVAgbgrdAA- jAJ07pZNxS4TtXbGDJ4f6)

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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 $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2. (X2 \in k6_subset_1 X0 X1) \Leftrightarrow ((r1_tarski X1 X2) \wedge (X2 \in X0)))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (2)$$

Assume the following.

$$\forall X0.(v1_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2.(v3_ordinal1 X2) \Rightarrow (((r1_tarski X0 X1) \wedge (X1 \in X2)) \Rightarrow (X0 \in X2)))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v3_ordinal1 X0) \wedge (v3_ordinal1 X1)) \Rightarrow (r1_ordinal1 X0 X1) \Leftrightarrow (r1_tarski X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.(v1_exchsort X0) \Leftrightarrow (\exists X1.(v3_ordinal1 X1) \wedge (\exists X2.(v3_ordinal1 X2) \wedge (k9_xtuple_0 X0 = k6_subset_1 X1 X2))) \quad (5)$$

Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow ((v1_ordinal1 X0) \wedge (v2_ordinal1 X0)) \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_exchsort X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2.(v3_ordinal1 X2) \Rightarrow \\ & (\forall X3.(v3_ordinal1 X3) \Rightarrow (((r1_ordinal1 X1 X2) \wedge ((r1_ordinal1 X2 X3) \wedge ((X1 \in k9_xtuple_0 X0) \wedge (X3 \in k9_xtuple_0 X0)))) \Rightarrow (X2 \in k9_xtuple_0 X0)))))) \end{aligned}$$