

t28\_exchsort (TM-  
PziRd9bFfEtNPmJneLWZVEWGBqUhSnphW)

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Let  $v5\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v4\_exchsort : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_ordinal1 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_exchsort : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $r1\_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_exchsort : \iota \Rightarrow o$  be given. Let  $k1\_ordinal2 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (r1\_tarski X0 (k3\_tarski X1)) \quad (1)$$

Assume the following.

$$\forall X0.X0 \in k1\_ordinal1 X0 \quad (2)$$

Assume the following.

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow ((r1\_ordinal1 X0 X1) \Leftrightarrow (\neg X1 \in X0))) \quad (3)$$

Assume the following.

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow (v3\_ordinal1 (k3\_tarski X0)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v3\_ordinal1 X0) \wedge (v3\_ordinal1 X1)) \Rightarrow (r1\_ordinal1 X0 X1) \Leftrightarrow (r1\_tarski X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow ((\neg v1\_xboole\_0 (k1\_ordinal1 X0)) \wedge (v3\_ordinal1 (k1\_ordinal1 X0))) \quad (6)$$

Assume the following.

$$\forall X0.(v5\_ordinal1 X0) \Leftrightarrow (v3\_ordinal1 (k9\_xtuple\_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_exhsort X0))) \Rightarrow (k4\_exhsort X0 = k1\_funct\_1 X0 (k3\_tarski (k9\_xtuple\_0 X0))) \quad (8)$$

Assume the following.

$$\forall X0.((v5\_ordinal1 X0) \wedge ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0))) \Rightarrow (k1\_ordinal2 X0 = k1\_funct\_1 X0 (k3\_tarski (k9\_xtuple\_0 X0))) \quad (9)$$

Assume the following.

$$\forall X0.((v5\_ordinal1 X0) \wedge ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0))) \Rightarrow ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_exhsort X0))) \quad (10)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v5\_ordinal1 X0) \wedge ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0))) \Rightarrow \\ & (((v4\_exhsort X0) \wedge ((v1\_finset\_1 (k1\_funct\_1 X0 k1\_xboole\_0))) \wedge \\ & (\forall X1.(v3\_ordinal1 X1) \Rightarrow ((k1\_funct\_1 X0 X1 \neq k1\_xboole\_0) \Rightarrow \\ & (k1\_ordinal1 X1 \in k9\_xtuple\_0 X0)))))) \Rightarrow (k4\_exhsort X0 = k1\_xboole\_0) \end{aligned}$$