t20_exchsort (TMS8c8SaYERTY8SrD19ArhyvHgftG2B8poj)

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Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k1\_exchsort : \iota \Rightarrow \iota$ be given. Let $k2\_ordinal2 : \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $v2\_exchsort : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $k2\_ordinal1 : \iota \Rightarrow \iota$ be given. Let $v3\_ordinal1 : \iota \Rightarrow o$ be given. Let $k1\_setfam\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1\_xboole\_0\ X1) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{2}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (v2\_exchsort\ X0\ (k2\_ordinal2\ (k9\_xtuple\_0\ X0))) \tag{3}$$

Assume the following.

$$\forall X0.\exists X1.(v1\_relat\_1\ X1) \wedge ((v5\_relat\_1\ X1\ X0) \wedge ((v5\_ordinal1\ X1) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_xboole\_0\ X1) \wedge (v1\_finset\_1\ X1))))) \tag{4}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (v1\_xboole\_0\ (k2\_ordinal1\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.v3\_ordinal1\ (k2\_ordinal2\ X0) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k2\_ordinal1\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow ((X2 \in X0) \wedge (v3\_ordinal1\ X2))) \tag{7}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.(v3\_ordinal1\ X1)\Rightarrow(((\exists X2.(v3\_ordinal1\ X2)\wedge(X2\in k9\_xtuple\_0\ X0))\Rightarrow((X1=k1\_exchsort\ X0)\Leftrightarrow(v2\_exchsort\ X0\ X1)))\wedge((\forall X2.(v3\_ordinal1\ X2)\Rightarrow(\neg X2\in k9\_xtuple\_0\ X0))\Rightarrow((X1=k1\_exchsort\ X0)\Leftrightarrow(X1=k1\_xboole\_0))))) \tag{8}$$

Assume the following.

$$\forall X0.k2\_ordinal2\ X0=k1\_setfam\_1\ (k2\_ordinal1\ X0) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((X0\neq k1\_xboole\_0)\Rightarrow((X1=k1\_setfam\_1\ X0)\Leftrightarrow(\forall X2.(X2\in X1)\Leftrightarrow(\forall X3.(X3\in X0)\Rightarrow(X2\in X3)))))\wedge((X0=k1\_xboole\_0)\Rightarrow((X1=k1\_setfam\_1\ X0)\Leftrightarrow(X1=k1\_xboole\_0))) \tag{10}$$

Theorem 1

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(k1\_exchsort\ X0=k2\_ordinal2\ (k9\_xtuple\_0\ X0))$$