

t59_exchsort

(TMK18QkLCtqAVnb4Lr2nmfyg1Ru9KRdAbmU)

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Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_ordinal1 : \iota \Rightarrow \iota$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow ((r1_ordinal1 X0 X1) \Leftrightarrow (\neg X1 \in X0))) \quad (1)$$

Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow ((X0 \in k1_ordinal1 X1) \Leftrightarrow (r1_ordinal1 X0 X1))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k4_xboole_0 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \quad (4)$$

Theorem 1

$$\forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2.(v3_ordinal1 X2) \Rightarrow ((X0 \in k6_subset_1 (k1_ordinal1 X1) X2) \Leftrightarrow ((r1_ordinal1 X2 X0) \wedge (r1_ordinal1 X0 X1)))))$$