

t2\_dickson

(TMafd4y6JuzfiZXxdQbZatYbYAMwmmMUknwN)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_ordinal1 : \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. X0 \in k1\_ordinal1 X0 \quad (1)$$

Assume the following.

$$\forall X0. (v3\_ordinal1 X0) \Rightarrow (\forall X1. (v3\_ordinal1 X1) \Rightarrow ((r1\_ordinal1 X0 X1) \vee (X1 \in X0))) \quad (2)$$

Assume the following.

$$\forall X0. (v3\_ordinal1 X0) \Rightarrow ((\neg v1\_xboole\_0 (k1\_ordinal1 X0)) \wedge (v3\_ordinal1 (k1\_ordinal1 X0))) \quad (3)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (k1\_ordinal1 X0 = k1\_nat\_1 X0 np\_1) \quad (4)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow ((v3\_ordinal1 X0) \wedge (v7\_ordinal1 X0)) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (\neg X1 \in X0) \quad (6)$$

**Theorem 1**  $\forall X0. (v7\_ordinal1 X0) \Rightarrow (r1\_ordinal1 X0 (k1\_nat\_1 X0 np\_1))$ .