

t45\_dickson (TMLBYSsMEg-  
BLKVcxjoeSH3FiVoTHHZbT7if)

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Let  $r7\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_dickson : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (2)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge \\ & ((\neg v1\_xboole\_0 X1) \wedge ((m1\_subset\_1 X2 X0) \wedge (m1\_subset\_1 X3 X1)))) \Rightarrow \\ & (k1\_domain\_1 X0 X1 X2 X3 = k4\_tarski X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (5)$$

Assume the following.

$$m1\_subset\_1 k10\_dickson (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k5\_numbers)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_relat\_1 X0) \Rightarrow (\forall X1.(r7\_relat\_2 X0 X1) \Leftrightarrow (\forall X2. \\ & \forall X3. \neg (X2 \in X1) \wedge ((X3 \in X1) \wedge ((\neg k4\_tarski X2 X3 \in X0) \wedge (\neg k4\_tarski \\ & X3 X2 \in X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. k4\_tarski X0 X1 = k2\_tarski (k2\_tarski X0 X1) (k1\_tarski X0) \quad (8)$$

Assume the following.

$$\begin{aligned} k10\_dickson = & ReplSep2 (toset (\lambda X0 : \iota.m1\_subset\_1 X0 k5\_numbers)) \\ & (\lambda X0 : \iota.toset (\lambda X1 : \iota.m1\_subset\_1 X1 k5\_numbers)) ( \\ & \lambda X0 : \iota. \lambda X1 : \iota.r1\_xxreal\_0 X0 X1) (\lambda X0 : \iota. \lambda X1 : \\ & \iota.k1\_domain\_1 k5\_numbers k5\_numbers X0 X1) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ( (r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0)) \quad (10)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (12)$$

Assume the following.

$$\forall X0. (v6\_membered X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \quad (13)$$

**Theorem 1**  $r7\_relat\_2 k10\_dickson k5\_numbers$ .