

t30\_dickson (TM-  
RFa5DddsziEsXnedoBTVvuzKiwFFpmXAM)

October 27, 2020

Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_dickson : \iota \Rightarrow \iota$  be given. Let  $v3\_dickson : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_wellord1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_orders\_2 : \iota \Rightarrow \iota$  be given. Let  $k6\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_dickson : \iota \Rightarrow \iota$  be given. Let  $r4\_waybel\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((v3\_dickson \\ & X0) \Rightarrow ((X1 \in k6\_eqrel\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0) (k1\_dickson \\ & X0) X2) \Leftrightarrow ((r1\_orders\_2 X0 X1 X2) \wedge (r1\_orders\_2 X0 X2 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1\_relat\_1 X2) \Rightarrow ((X0 \in k1\_wellord1 X2 X1) \Leftrightarrow ((X0 \neq X1) \wedge (k4\_tarski X0 X1 \in X2))) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.\forall X2.(m1\_subset\_1 \\ & X2 (u1\_struct\_0 (k5\_dickson X0))) \Rightarrow ((r4\_waybel\_4 X1 X2 (u1\_orders\_2 \\ & (k5\_dickson X0))) \Leftrightarrow ((X2 \in X1) \wedge (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ & X0)) \Rightarrow (((X3 \in X1) \wedge (k4\_tarski X3 X2 \in u1\_orders\_2 X0)) \Rightarrow (k4\_tarski \\ & X2 X3 \in u1\_orders\_2 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))\Rightarrow(k9\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(m1\_subset\_1 (u1\_orders\_2 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow((r1\_orders\_2 X0 X1 X2)\Leftrightarrow(k4\_tarski X1 X2 \in u1\_orders\_2 X0)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(X2 \in X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (10)$$

**Theorem 1**

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow((v3\_dickson X0)\wedge((X2 \in X1)\wedge(r1\_tarski (k9\_subset\_1 (u1\_struct\_0 X0) (k1\_wellord1 (u1\_orders\_2 X0) X2) X1) (k6\_eqrel\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0) (k1\_dickson X0) X2))))\Rightarrow(r4\_waybel\_4 X1 X2 (u1\_orders\_2 (k5\_dickson X0))))))$$