

t33_dickson
(TMHEGGbys5xjbnh6y2Driz2Ykdsij9CsbqR)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v3_dickson : \iota \Rightarrow o$ be given. Let $v4_dickson : \iota \Rightarrow o$ be given. Let $v1_wellfnd1 : \iota \Rightarrow o$ be given. Let $k5_dickson : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k6_dickson : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (((v3_dickson \\ & X0) \wedge (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers \\ & (u1_struct_0 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers (u1_struct_0 X0)))))) \Rightarrow (\exists X2.(m1_subset_1 X2 \\ & k5_numbers) \wedge (\exists X3.(m1_subset_1 X3 k5_numbers) \wedge ((\neg r1_xreal_0 \\ & X3 X2) \wedge (r1_orders_2 X0 (k8_nat_1 (u1_struct_0 X0) X1 X2) (k8_nat_1 \\ & (u1_struct_0 X0) X1 X3)))))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v1_finset_1 \\ & (k6_dickson X0 X1)) \wedge (\neg v1_xboole_0 (k6_dickson X0 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow ((v4_dickson \\ & X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers \\ & (u1_struct_0 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers (u1_struct_0 X0)))))) \Rightarrow (\exists X2.(m1_subset_1 X2 \\ & k5_numbers) \wedge (\exists X3.(m1_subset_1 X3 k5_numbers) \wedge ((\neg r1_xreal_0 \\ & X3 X2) \wedge (r1_orders_2 X0 (k8_nat_1 (u1_struct_0 X0) X1 X2) (k8_nat_1 \\ & (u1_struct_0 X0) X1 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow ((v1_wellfnd1 \\ (k5_dickson X0)) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0))) \Rightarrow (\neg (X1 \neq k1_xboole_0) \wedge (\forall X2. \neg X2 \in k6_dickson X0 X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Leftrightarrow (\forall X1. \neg X1 \in X0) \quad (5)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (((v3_dickson \\ X0) \wedge (v4_dickson X0)) \Rightarrow (v1_wellfnd1 (k5_dickson X0))) \end{aligned}$$