

t25_hurwitz

(TMUeC8WB3hFWRNAaUuSzyAcig2vjmZtYDoZ)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_group_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_hurwitz : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_group_1 : \iota \Rightarrow \iota$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_algseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_polynom5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_polynom3 : \iota \Rightarrow \iota$ be given. Let $k5_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (2)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l1_struct_0 \\ & X0))\wedge(((v1_funct_1 X1)\wedge((v1_funct_2 X1 k5_numbers (u1_struct_0 \\ & X0))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & X0))))))\wedge(m1_subset_1 X2 k5_numbers)))\Rightarrow(k1_normsp_1 X0 X1 X2 = \\ & k1_funct_1 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v1_group_1 X0)\wedge(l6_algstr_0 \\ & X0)))\Rightarrow(\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers (u1_struct_0 X0))))\wedge((v1_relat_1 X1)\wedge((v4_relat_1 \\ & X1 k5_numbers)\wedge((v5_relat_1 X1 (u1_struct_0 X0))\wedge((v1_funct_1 \\ & X1)\wedge((\neg v1_xboole_0 X1)\wedge((v1_partfun1 X1 k5_numbers)\wedge((v1_funct_2 \\ & X1 k5_numbers (u1_struct_0 X0))\wedge((v1_algseq_1 X1 X0)\wedge(v1_polynom5 \\ & X1 X0)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v1_group_1 X0)\wedge(l6_algstr_0 \\ & X0)))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2. \\ & (m1_subset_1 X2 k5_numbers)\Rightarrow((X2\neq k6_numbers)\Rightarrow((k1_funct_1 \\ & (k1_funct_4 (k9_polynom3 X0) (k5_funct_4 (u1_struct_0 X0) k6_numbers \\ & X2 (k4_algstr_0 X0 (k2_binop_1 (u1_struct_0 X0) k5_numbers (u1_struct_0 \\ & X0) (k4_group_1 X0) X1 X2)) (k1_group_1 X0))) k6_numbers = k4_algstr_0 \\ & X0 (k2_binop_1 (u1_struct_0 X0) k5_numbers (u1_struct_0 X0) (k4_group_1 \\ & X0) X1 X2))\wedge(k1_funct_1 (k1_funct_4 (k9_polynom3 X0) (k5_funct_4 \\ & (u1_struct_0 X0) k6_numbers X2 (k4_algstr_0 X0 (k2_binop_1 (u1_struct_0 \\ & X0) k5_numbers (u1_struct_0 X0) (k4_group_1 X0) X1 X2)) (k1_group_1 \\ & X0))) X2 = k1_group_1 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.v1_xboole_0 (k2_funcop_1 k1_xboole_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0)\Rightarrow(l1_struct_0 X0) \quad (10)$$

Assume the following.

$$m2_subset_1 \ k6_numbers \ k1_numbers \ k5_numbers \quad (11)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 \ X0) \wedge ((v1_group_1 \\ & \quad X0) \wedge (l6_algstr_0 \ X0))) \wedge ((m1_subset_1 \ X1 \ (u1_struct_0 \ X0)) \wedge (\\ & \quad m1_subset_1 \ X2 \ k5_numbers))) \Rightarrow ((v1_funct_1 \ (k3_hurwitz \ X0 \ X1 \ X2)) \wedge \\ & \quad ((v1_funct_2 \ (k3_hurwitz \ X0 \ X1 \ X2) \ k5_numbers \ (u1_struct_0 \ X0)) \wedge \\ & \quad ((v1_algseq_1 \ (k3_hurwitz \ X0 \ X1 \ X2) \ X0) \wedge (m1_subset_1 \ (k3_hurwitz \\ & \quad X0 \ X1 \ X2) \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \ X0)))))) \\ & \quad (13) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 \ X0) \wedge ((v1_group_1 \ X0) \wedge (l6_algstr_0 \\ & \quad X0))) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ (u1_struct_0 \ X0)) \Rightarrow (\forall X2. \\ & \quad (m1_subset_1 \ X2 \ k5_numbers) \Rightarrow (k3_hurwitz \ X0 \ X1 \ X2 = k1_funct_4 \ (\\ & \quad k9_polynom3 \ X0) \ (k5_funct_4 \ (u1_struct_0 \ X0) \ k6_numbers \ X2 \ (k4_algstr_0 \\ & \quad X0 \ (k2_binop_1 \ (u1_struct_0 \ X0) \ k5_numbers \ (u1_struct_0 \ X0) \ (k4_group_1 \\ & \quad X0) \ X1 \ X2)) \ (k1_group_1 \ X0)))))) \\ & \quad (14) \end{aligned}$$

Assume the following.

$$\forall X0. \forall X1. k2_funcop_1 \ X0 \ X1 = k2_zfmisc_1 \ X0 \ (k1_tarski \ X1) \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. (v1_xboole_0 \ X0) \Rightarrow (\forall X2. (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (v1_xboole_0 \ X2)) \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 \ X0) \wedge ((v1_group_1 \ X0) \wedge (l6_algstr_0 \\ & \quad X0))) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ (u1_struct_0 \ X0)) \Rightarrow (\forall X2. \\ & \quad (m1_subset_1 \ X2 \ k5_numbers) \Rightarrow ((X2 \neq k6_numbers) \Rightarrow ((k1_normsp_1 \\ & \quad X0 \ (k3_hurwitz \ X0 \ X1 \ X2) \ k6_numbers = k4_algstr_0 \ X0 \ (k2_binop_1 \\ & \quad (u1_struct_0 \ X0) \ k5_numbers \ (u1_struct_0 \ X0) \ (k4_group_1 \ X0) \ X1 \\ & \quad X2)) \wedge (k1_normsp_1 \ X0 \ (k3_hurwitz \ X0 \ X1 \ X2) \ X2 = k1_group_1 \ X0)))))) \end{aligned}$$