

l69_sin_cos

(TMRS997rBhuz394hYr3ekhsB9zsatdpYPsU)

October 27, 2020

Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k2_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_abian : \iota \Rightarrow o$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v5_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v1_xcmplx_0 X2) \Rightarrow (k1_newton (k1_newton X2 X0) X1 = k1_newton X2 \\ & (k3_xcmplx_0 X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (k1_newton \\ & X1 (k1_nat_1 X0 np_1) = k3_xcmplx_0 (k1_newton X1 X0) X1)) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 np_1 X0 = X0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 k5_numbers) \Rightarrow \\ & ((v1_abian X1) \Rightarrow (k1_newton (k4_xcmplx_0 X0) X1 = k1_newton X0 X1))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (k2_newton np_1 X0 = np_1) \tag{5}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 \ X0) \Rightarrow (k3_xcmplx_0 \ X0 \ (k4_xcmplx_0 \ np_1) = k4_xcmplx_0 \ X0) \quad (7)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 \ X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge \\ & (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 \ X0 \ X1) \Leftrightarrow (m1_subset_1 \ X2 \ X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \ X0 \ k1_numbers) \wedge (v1_xreal_0 \ X1)) \Rightarrow (k8_real_1 \ X0 \ X1 = k3_xcmplx_0 \ X0 \ X1) \quad (10)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \ X0 \ k5_numbers) \wedge (v7_ordinal1 \ X1)) \Rightarrow (k4_nat_1 \ X0 \ X1 = k3_xcmplx_0 \ X0 \ X1) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \ X0 \ k1_numbers) \wedge (v7_ordinal1 \ X1)) \Rightarrow (k2_newton \ X0 \ X1 = k1_newton \ X0 \ X1) \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \ X0 \ k5_numbers) \wedge (v7_ordinal1 \ X1)) \Rightarrow (k2_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \quad (14)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (k1_real_1 \ X0 = k4_xcmplx_0 \ X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(m1_subset_1\ X1\ k5_numbers))\Rightarrow (k1_nat_1\ X0\ X1 = k2_xcmplx_0\ X0\ X1) \quad (16)$$

Assume the following.

$$(\neg v1_xboole_0\ k4_ordinal1)\wedge(v3_ordinal1\ k4_ordinal1) \quad (17)$$

Assume the following.

$$v6_membered\ k4_ordinal1 \quad (18)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow((v1_xcmplx_0\ (k4_xcmplx_0\ X0))\wedge (v1_xreal_0\ (k4_xcmplx_0\ X0))) \quad (19)$$

Assume the following.

$$\neg v1_xboole_0\ k1_numbers \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow(v7_ordinal1\ (k2_xcmplx_0\ X0\ X1)) \quad (21)$$

Assume the following.

$$\forall X0.((v1_int_1\ X0)\wedge(\neg v1_abian\ X0))\Rightarrow(\neg v1_abian\ (k2_xcmplx_0\ X0\ np_2)) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_int_1\ X0)\wedge(\neg v1_abian\ X0))\wedge((v1_int_1\ X1)\wedge(\neg v1_abian\ X1)))\Rightarrow(v1_abian\ (k2_xcmplx_0\ X0\ X1)) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1\ X0\ k1_numbers)\wedge(v1_xreal_0\ X1))\Rightarrow(m1_subset_1\ (k8_real_1\ X0\ X1)\ k1_numbers) \quad (24)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1\ X0\ k5_numbers)\wedge(v7_ordinal1\ X1))\Rightarrow(m2_subset_1\ (k4_nat_1\ X0\ X1)\ k1_numbers\ k5_numbers) \quad (26)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(m1_subset_1\ (k1_real_1\ X0)\ k1_numbers) \quad (27)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers)\wedge(v7_ordinal1 X1))\Rightarrow(k4_nat_1 X0 X1 = k4_nat_1 X1 X0) \quad (28)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (29)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (30)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (31)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xcmplx_0 X0) \quad (32)$$

Assume the following.

$$\forall X0.(v6_membered X0)\Rightarrow(v5_membered X0) \quad (33)$$

Assume the following.

$$\forall X0.(v5_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow(v1_int_1 X1)) \quad (34)$$

Theorem 1

$$\begin{aligned} &\forall X0.(m2_subset_1 X0 k1_numbers k5_numbers)\Rightarrow(\forall X1. \\ &(v1_xreal_0 X1)\Rightarrow(\forall X2.(v1_xreal_0 X2)\Rightarrow(\forall X3.(v1_xreal_0 \\ &X3)\Rightarrow(\forall X4.(v1_xreal_0 X4)\Rightarrow((k1_newton X1 (k4_nat_1 np_2 \\ &X0) = k1_newton (k1_newton X1 X0) np_2)\wedge((k2_newton (k1_real_1 \\ &np_1) (k4_nat_1 np_2 X0) = np_1)\wedge(k2_newton (k1_real_1 np_1) \\ &(k2_nat_1 (k4_nat_1 np_2 X0) np_1) = k1_real_1 np_1)))))) \end{aligned}$$