

t32_sin_cos (TMR-
PZcF2Hc6qawo5YhcR5nYzgGZVvUm2fnb)

October 27, 2020

Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. 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 $k1_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xreal_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 X0 k5_numbers) \wedge (v7_ordinal1 \\ & X1)) \Rightarrow (k4_nat_1 X0 X1 = k3_xcmplx_0 X0 X1) \end{aligned} \quad (5)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (6)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 \ X0)\wedge(v1_xcmplx_0 \ X1))\Rightarrow(\quad (8)$$
$$k3_xcmplx_0 \ X0 \ X1 = k3_xcmplx_0 \ X1 \ X0)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k4_ordinal1)\Rightarrow(v7_ordinal1 \ X0) \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1 \ X0)\Rightarrow(v1_xcmplx_0 \ X0) \quad (10)$$

Assume the following.

$$\forall X0.(v1_xboole_0 \ X0)\Rightarrow(\forall X1.(m1_subset_1 \ X1 \ (k1_zfmisc_1 \quad (11)$$
$$X0))\Rightarrow(v1_xboole_0 \ X1))$$

Theorem 1

$$\forall X0.(v1_xcmplx_0 \ X0)\Rightarrow(\forall X1.(m2_subset_1 \ X1 \ k1_numbers \quad (1)$$
$$k5_numbers)\Rightarrow((k1_newton \ X0 \ (k4_nat_1 \ np_2 \ X1) = k1_newton \ (k1_newton \quad (2)$$
$$X0 \ X1) \ np_2)\wedge(k1_newton \ X0 \ (k4_nat_1 \ np_2 \ X1) = k1_newton \ (k1_newton \quad (3)$$
$$X0 \ np_2) \ X1)))$$