

t32_sin_cos4

(TMbNZRX5ZWeUHCjUGHRE4duJdVBu8TfZHkf)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_sin_cos : \iota \Rightarrow \iota$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 np_1 X0 = X0) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (k2_xcmplx_0 \\ (k20_sin_cos (k2_xcmplx_0 X0 X1)) (k20_sin_cos (k6_xcmplx_0 X0 \\ X1)) = k3_xcmplx_0 np_2 (k3_xcmplx_0 (k20_sin_cos X0) (k20_sin_cos \\ X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_xcmplx_0 X0) \wedge ((v1_xcmplx_0 X1) \wedge (v1_xcmplx_0 X2))) \Rightarrow (k3_xcmplx_0 (k3_xcmplx_0 X0 X1) X2 = k3_xcmplx_0 X0 (k3_xcmplx_0 X1 X2)) \quad (3)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$k3_xcmplx_0 (k7_xcmplx_0 np_1 np_2) np_2 = np_1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(v1_xcmplx_0 (k7_xcmplx_0 X0 X1)) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xreal_0 (k20_sin_cos X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(v1_xcmplx_0 (k3_xcmplx_0 X0 X1)) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xcmplx_0 X0) \quad (11)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow(k3_xcmplx_0 (k20_sin_cos X0) (k20_sin_cos X1) = k3_xcmplx_0 (k7_xcmplx_0 np_1 np_2) (k2_xcmplx_0 (k20_sin_cos (k2_xcmplx_0 X0 X1)) (k20_sin_cos (k6_xcmplx_0 X0 X1))))))$$