

t31_sin_cos4 (TM- SLaqJdhR3KLY2eRGeaNvAGnyv9E8YsKPE)

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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 $k17_sin_cos : \iota \Rightarrow \iota$ 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 $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (k3_xcmplx_0 \\ & (k17_sin_cos X0) (k20_sin_cos X1) = k3_xcmplx_0 (k7_xcmplx_0 np_1 \\ & np_2) (k2_xcmplx_0 (k17_sin_cos (k2_xcmplx_0 X0 X1)) (k17_sin_cos \\ & (k6_xcmplx_0 X0 X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (k6_xcmplx_0 \\ & (k17_sin_cos (k2_xcmplx_0 X0 X1)) (k17_sin_cos (k6_xcmplx_0 X0 \\ & X1)) = k3_xcmplx_0 np_2 (k3_xcmplx_0 (k20_sin_cos X0) (k17_sin_cos \\ & X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (k2_xcmplx_0 \\ & (k17_sin_cos (k2_xcmplx_0 X0 X1)) (k17_sin_cos (k6_xcmplx_0 X0 \\ & X1)) = k3_xcmplx_0 np_2 (k3_xcmplx_0 (k17_sin_cos X0) (k20_sin_cos \\ & X1)))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xreal_0 (k20_sin_cos X0)) \tag{4}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xreal_0 (k17_sin_cos X0)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k3_xcmplx_0 X0 X1 = k3_xcmplx_0 X1 X0) \tag{6}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (7)$$

Theorem 1

$$\begin{aligned} &\forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow(k3_xcmplx_0 \\ &(k20_sin_cos X0) (k17_sin_cos X1) = k3_xcmplx_0 (k7_xcmplx_0 np_1 \\ &np_2) (k6_xcmplx_0 (k17_sin_cos (k2_xcmplx_0 X0 X1)) (k17_sin_cos \\ &(k6_xcmplx_0 X0 X1)))))) \end{aligned}$$