

## t32\_sin\_cos5

(TMbVomCtDqJV8G3FFtWTjcJfKnN8b5cj3kD)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k18\_sin\_cos : \iota \Rightarrow \iota$  be given. Let  $k6\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k2\_sin\_cos4 : \iota \Rightarrow \iota$  be given. Let  $k17\_sin\_cos : \iota \Rightarrow \iota$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k20\_sin\_cos : \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_sin\_cos : \iota$  be given. Let  $k3\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k32\_sin\_cos : \iota$  be given. Let  $k19\_sin\_cos : \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_sin\_cos4 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $np\_0 : \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(v1\_xreal\_0 X0) \Rightarrow ((k1\_seq\_1 k16\_sin\_cos (k3\_real\_1 \\
 & X0 (k8\_real\_1 np\_2 k32\_sin\_cos)) = k1\_seq\_1 k16\_sin\_cos X0) \wedge ( \\
 & (k1\_seq\_1 k19\_sin\_cos (k3\_real\_1 X0 (k8\_real\_1 np\_2 k32\_sin\_cos)) = \\
 & k1\_seq\_1 k19\_sin\_cos X0) \wedge ((k1\_seq\_1 k16\_sin\_cos (k9\_real\_1 ( \\
 & k10\_real\_1 k32\_sin\_cos np\_2) X0) = k1\_seq\_1 k19\_sin\_cos X0) \wedge ( \\
 & (k1\_seq\_1 k19\_sin\_cos (k9\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2) \\
 & X0) = k1\_seq\_1 k16\_sin\_cos X0) \wedge ((k1\_seq\_1 k16\_sin\_cos (k7\_real\_1 \\
 & (k10\_real\_1 k32\_sin\_cos np\_2) X0) = k1\_seq\_1 k19\_sin\_cos X0) \wedge \\
 & ((k1\_seq\_1 k19\_sin\_cos (k7\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2) \\
 & X0) = k1\_real\_1 (k1\_seq\_1 k16\_sin\_cos X0)) \wedge ((k1\_seq\_1 k16\_sin\_cos \\
 & (k7\_real\_1 k32\_sin\_cos X0) = k1\_real\_1 (k1\_seq\_1 k16\_sin\_cos X0)) \wedge \\
 & (k1\_seq\_1 k19\_sin\_cos (k7\_real\_1 k32\_sin\_cos X0) = k1\_real\_1 ( \\
 & k1\_seq\_1 k19\_sin\_cos X0)))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (k7\_xcmplx\_0 np\_1 (k7\_xcmplx\_0 X0 X1) = k7\_xcmplx\_0 X1 X0)) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((k18\_sin\_cos (k6\_real\_1 X0 np\_2) \neq k6\_numbers) \Rightarrow (k1\_sin\_cos4 (k6\_real\_1 X0 np\_2) = k10\_real\_1 (k9\_real\_1 np\_1 (k20\_sin\_cos X0)) (k17\_sin\_cos X0))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (5)$$

Assume the following.

$$((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \quad (6)$$

Assume the following.

$$((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \quad (7)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k9\_real\_1 X0 X1 = k6\_xcmplx\_0 X0 X1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (m1\_subset\_1 X1 k1\_numbers)) \Rightarrow (k6\_real\_1 X0 X1 = k7\_xcmplx\_0 X0 X1) \quad (10)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k10\_real\_1 X0 X1 = k7\_xcmplx\_0 X0 X1) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(v1\_xreal\_0 (k6\_xcmplx\_0 X0 X1)) \quad (13)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xreal\_0 (k20\_sin\_cos X0)) \quad (14)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xreal\_0 (k17\_sin\_cos X0)) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(m1\_subset\_1 X1 k1\_numbers))\Rightarrow(m1\_subset\_1 (k6\_real\_1 X0 X1) k1\_numbers) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\Rightarrow(m1\_subset\_1 (k1\_seq\_1 X0 X1) k1\_numbers) \quad (17)$$

Assume the following.

$$(v1\_funct\_1 k16\_sin\_cos)\wedge((v1\_funct\_2 k16\_sin\_cos k1\_numbers k1\_numbers)\wedge(m1\_subset\_1 k16\_sin\_cos (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \quad (18)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(k2\_sin\_cos4 X0 = k7\_xcmplx\_0 (k20\_sin\_cos X0) (k17\_sin\_cos X0)) \quad (19)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Leftrightarrow(X0 \in k1\_numbers) \quad (20)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(k1\_sin\_cos4 X0 = k7\_xcmplx\_0 (k17\_sin\_cos X0) (k20\_sin\_cos X0)) \quad (21)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(k20\_sin\_cos X0 = k1\_seq\_1 k19\_sin\_cos X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(k17\_sin\_cos X0 = k1\_seq\_1 k16\_sin\_cos X0) \quad (23)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \quad (24)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v5\_relat\_1 X0 k1\_numbers)) \Rightarrow ((v1\_relat\_1 X0) \wedge (v3\_valued\_0 X0)) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \quad (26)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (27)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xcmplx\_0 X0) \quad (28)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (29)$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((k18\_sin\_cos (k6\_real\_1 X0 np\_2) \neq k6\_numbers) \Rightarrow (k2\_sin\_cos4 (k6\_real\_1 X0 np\_2) = k6\_real\_1 (k17\_sin\_cos X0) (k9\_real\_1 np\_1 (k20\_sin\_cos X0))))$$