

# t17\_sin\_cos6 (TMTJiaeYgPEwmxy-my- DXfK7yAGTTTC73zn4z)

October 27, 2020

Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k32\_sin\_cos : \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k17\_sin\_cos : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k18\_sin\_cos : \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k19\_sin\_cos : \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_sin\_cos : \iota$  be given. Let  $np\_1 : \iota$  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  $v1\_xxreal\_0 : \iota \Rightarrow o$  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  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k31\_sin\_cos : \iota$  be given. Let  $c5\_xreal\_0 : \iota$  be given. Let  $k1\_arytm\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $c3\_xreal\_0 : \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow (k17\_sin\_cos X0 = k18\_sin\_cos (k7\_real\_1 (k8\_real\_1 (k8\_real\_1 np\_2 k32\_sin\_cos) X1) X0))) \quad (1)$$

Assume the following.

$$\begin{aligned} & (k1\_seq\_1 k19\_sin\_cos (k10\_real\_1 k32\_sin\_cos np\_2) = k6\_numbers) \wedge \\ & ((k1\_seq\_1 k16\_sin\_cos (k10\_real\_1 k32\_sin\_cos np\_2) = np\_1) \wedge \\ & ((k1\_seq\_1 k19\_sin\_cos k32\_sin\_cos = k1\_real\_1 np\_1) \wedge ((k1\_seq\_1 k16\_sin\_cos k32\_sin\_cos = k6\_numbers) \wedge ((k1\_seq\_1 k19\_sin\_cos \\ & (k7\_real\_1 k32\_sin\_cos (k10\_real\_1 k32\_sin\_cos np\_2)) = k6\_numbers) \wedge \\ & ((k1\_seq\_1 k16\_sin\_cos (k7\_real\_1 k32\_sin\_cos (k10\_real\_1 k32\_sin\_cos np\_2)) = k1\_real\_1 np\_1) \wedge ((k1\_seq\_1 k19\_sin\_cos (k8\_real\_1 np\_2 k32\_sin\_cos) = np\_1) \wedge (k1\_seq\_1 k16\_sin\_cos (k8\_real\_1 np\_2 k32\_sin\_cos) = k6\_numbers)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (4)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow (\neg(\neg r1\_xxreal\_0 \\ X0 (k7\_real\_1 k32\_sin\_cos (k8\_real\_1 (k8\_real\_1 np\_2 k32\_sin\_cos) \\ X1))) \wedge (\neg r1\_xxreal\_0 (k7\_real\_1 (k8\_real\_1 np\_2 k32\_sin\_cos) \\ (k8\_real\_1 (k8\_real\_1 np\_2 k32\_sin\_cos) X1)) X0) \wedge (r1\_xxreal\_0 \\ k6\_numbers (k17\_sin\_cos X0)))))) \quad (6) \end{aligned}$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \quad (7) \end{aligned}$$

Assume the following.

$$k2\_xcmplx\_0 np\_1 (k4\_xcmplx\_0 np\_1) = np\_0 \quad (8)$$

Assume the following.

$$r1\_xxreal\_0 np\_0 np\_0 \quad (9)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (10)$$

Assume the following.

$$k32\_sin\_cos = k31\_sin\_cos \quad (11)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (k18\_sin\_cos X0 = k17\_sin\_cos X0) \quad (12)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 X0) \wedge (v1\_xxreal\_0 X0) \quad (13)$$

Assume the following.

$$(c5\_xreal\_0 = k4\_xcmplx\_0 np\_1) \wedge (k1\_arytm\_0 c3\_xreal\_0 c5\_xreal\_0 = k6\_numbers) \quad (14)$$

Assume the following.

$$k2\_xcmplx\_0 \ np\_1 \ (k4\_xcmplx\_0 \ np\_1) = k6\_numbers \quad (15)$$

Assume the following.

$$v3\_membered \ k1\_numbers \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (m1\_subset\_1 \ (k8\_real\_1 \ X0 \ X1) \ k1\_numbers) \quad (17)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (m1\_subset\_1 \ (k7\_real\_1 \ X0 \ X1) \ k1\_numbers) \quad (18)$$

Assume the following.

$$m1\_subset\_1 \ k32\_sin\_cos \ k1\_numbers \quad (19)$$

Assume the following.

$$v1\_xreal\_0 \ k31\_sin\_cos \quad (20)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (m1\_subset\_1 \ (k18\_sin\_cos \ X0) \ k1\_numbers) \quad (21)$$

Assume the following.

$$\forall X0. (v1\_xreal\_0 \ X0) \Leftrightarrow (X0 \in \ k1\_numbers) \quad (22)$$

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.

$$\forall X0. \forall X1. ((v1\_xxreal\_0 \ X0) \wedge (v1\_xxreal\_0 \ X1)) \Rightarrow (r1\_xxreal\_0 \ X0 \ X1) \vee (r1\_xxreal\_0 \ X1 \ X0) \quad (24)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (k8\_real\_1 \ X0 \ X1 = k8\_real\_1 \ X1 \ X0) \quad (25)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (k7\_real\_1 \ X0 \ X1 = k7\_real\_1 \ X1 \ X0) \quad (26)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (27)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (28)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (29)$$

Assume the following.

$$\forall X0.(v3\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_xreal\_0 X1)) \quad (30)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow (((r1\_xxreal\_0 \\ & (k7\_real\_1 k32\_sin\_cos (k8\_real\_1 (k8\_real\_1 np\_2 k32\_sin\_cos) \\ & X1)) X0) \wedge (r1\_xxreal\_0 X0 (k7\_real\_1 (k8\_real\_1 np\_2 k32\_sin\_cos) \\ & (k8\_real\_1 (k8\_real\_1 np\_2 k32\_sin\_cos) X1)))) \Rightarrow (r1\_xxreal\_0 \\ & (k17\_sin\_cos X0) k6\_numbers))) \end{aligned}$$