

## t18\_sin\_cos

(TMU13ZCSPpAqruNMkqnjAEfBVXUrCVMgckt)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_numbers : \iota$  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  $r1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k8\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_sin\_cos : \iota \Rightarrow \iota$  be given. Let  $k17\_complex1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_sin\_cos : \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k13\_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_complex1 : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  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  $k55\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & (v1\_xcmplx\_0 X1) \Rightarrow ((k8\_nat\_1 k2\_numbers (k3\_sin\_cos X1) (k2\_nat\_1 \\ & X0 np\_1) = k13\_complex1 (k3\_xcmplx\_0 (k8\_nat\_1 k2\_numbers (k3\_sin\_cos \\ & X1) X0) X1) (k2\_xcmplx\_0 (k2\_nat\_1 X0 np\_1) (k3\_xcmplx\_0 k6\_numbers \\ & k7\_complex1))) \wedge ((k8\_nat\_1 k2\_numbers (k3\_sin\_cos X1) k6\_numbers = \\ & np\_1) \wedge (k17\_complex1 (k8\_nat\_1 k2\_numbers (k3\_sin\_cos X1) X0) = \\ & k8\_nat\_1 k1\_numbers (k4\_sin\_cos (k17\_complex1 X1) X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k2\_numbers)))))) \Rightarrow \\ & (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow ((k17\_complex1 \\ & (k8\_nat\_1 k2\_numbers X0 X1) = k8\_nat\_1 k1\_numbers (k55\_valued\_1 \\ & k5\_numbers k2\_numbers X0) X1) \wedge (r1\_xreal\_0 k6\_numbers (k8\_nat\_1 \\ & k1\_numbers (k55\_valued\_1 k5\_numbers k2\_numbers X0) X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow ((v1\_funct\_1 (k3\_sin\_cos X0)) \wedge ( \\ & (v1\_funct\_2 (k3\_sin\_cos X0) k5\_numbers k2\_numbers) \wedge (m1\_subset\_1 \\ & (k3\_sin\_cos X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k2\_numbers)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k2\_numbers) \Rightarrow (v1\_xcmplx\_0 X0) \quad (4)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 k2\_numbers) \Rightarrow (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (r1\_xxreal\_0 k6\_numbers (k8\_nat\_1 k1\_numbers (k4\_sin\_cos (k17\_complex1 X0)) X1)))$$