

# t31\_sin\_cos9 (TMUXyLfadVFjtyP8fEtTEnQAkLdfAqiiBXm)

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Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k29\_sin\_cos : \iota$  be given. Let  $k2\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k32\_sin\_cos : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k1\_sin\_cos9 : \iota$  be given. Let  $k1\_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_funct\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v2\_funct\_1 X0) \Rightarrow \\ & ((k3\_relat\_1 X0 (k2\_funct\_1 X0) = k4\_relat\_1 (k9\_xtuple\_0 X0)) \wedge \\ & (k3\_relat\_1 (k2\_funct\_1 X0) X0 = k4\_relat\_1 (k10\_xtuple\_0 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$k2\_relset\_1 k1\_numbers k1\_sin\_cos9 = k2\_rcomp\_1 (k1\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2)) (k10\_real\_1 k32\_sin\_cos np\_2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v5\_relat\_1 X1 X0)) \Rightarrow (k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))) \Rightarrow (k1\_partfun2 X0 X1 = k4\_relat\_1 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} k2\_funct\_1 k1\_sin\_cos9 = k2\_partfun1 k1\_numbers k1\_numbers k29\_sin\_cos \\ (k2\_rcomp\_1 (k1\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2)) (k10\_real\_1 \\ k32\_sin\_cos np\_2)) \end{aligned} \quad (5)$$

Assume the following.

$$(v1\_funct\_1\ k1\_sin\_cos9) \wedge (v2\_funct\_1\ k1\_sin\_cos9) \quad (6)$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1\ X1) \wedge (v5\_relat\_1\ X1\ X0)) \Rightarrow (m1\_subset\_1\ (k2\_relset\_1\ X0\ X1)\ (k1\_zfmisc\_1\ X0)) \quad (8)$$

Assume the following.

$$(v1\_funct\_1\ k1\_sin\_cos9) \wedge (m1\_subset\_1\ k1\_sin\_cos9\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow ((v4\_relat\_1\ X2\ X0) \wedge (v5\_relat\_1\ X2\ X1)) \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow (v1\_relat\_1\ X2) \quad (11)$$

### Theorem 1

$$k3\_relat\_1\ (k2\_partfun1\ k1\_numbers\ k1\_numbers\ k29\_sin\_cos\ (k2\_rcomp\_1\ (k1\_real\_1\ (k10\_real\_1\ k32\_sin\_cos\ np\_2))\ (k10\_real\_1\ k32\_sin\_cos\ np\_2)))\ k1\_sin\_cos9 = k1\_partfun2\ k1\_numbers\ (k2\_rcomp\_1\ (k1\_real\_1\ (k10\_real\_1\ k32\_sin\_cos\ np\_2))\ (k10\_real\_1\ k32\_sin\_cos\ np\_2))\ (k10\_real\_1\ k32\_sin\_cos\ np\_2))$$