

## l3\_sin\_cos9

(TMdULsggG2nU529Xdhd7XZQ6R5fdUauydXx)

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Let  $r2\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_rcomp\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k41\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_rfunct\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k19\_sin\_cos : \iota$  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  $k5\_numbers : \iota$  be given. Let  $k31\_sin\_cos : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (v3\_rcomp\_1 (k2\_rcomp\_1 X0 X1))) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3\_rcomp\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 k1\_numbers))) \Rightarrow \\ & ((r1\_tarski X0 (k1\_relset\_1 k1\_numbers k29\_sin\_cos)) \Rightarrow ((r2\_fdiff\_1 \\ & k29\_sin\_cos X0) \wedge (r2\_relset\_1 k1\_numbers k1\_numbers (k2\_fdiff\_1 \\ & k29\_sin\_cos X0) (k5\_relset\_1 k1\_numbers k1\_numbers (k41\_valued\_1 \\ & k1\_numbers k1\_numbers (k6\_rfunct\_1 k1\_numbers k1\_numbers k19\_sin\_cos)) \\ & X0)))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & r1\_tarski (k2\_rcomp\_1 (k1\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2)) \\ & (k10\_real\_1 k32\_sin\_cos np\_2)) (k1\_relset\_1 k1\_numbers k29\_sin\_cos) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \quad (4) \end{aligned}$$

Assume the following.

$$k32\_sin\_cos = k31\_sin\_cos \quad (5)$$

Assume the following.

$$m1\_subset\_1 \ k32\_sin\_cos \ k1\_numbers \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 \ X0)\wedge(v1\_xreal\_0 \ X1))\Rightarrow(m1\_subset\_1 \ (k2\_rcomp\_1 \ X0 \ X1) \ (k1\_zfmisc\_1 \ k1\_numbers)) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k1\_numbers)\Rightarrow(m1\_subset\_1 \ (k1\_real\_1 \ X0) \ k1\_numbers) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 \ X0 \ k1\_numbers)\wedge(v1\_xreal\_0 \ X1))\Rightarrow(m1\_subset\_1 \ (k10\_real\_1 \ X0 \ X1) \ k1\_numbers) \quad (9)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 \ X0)\Rightarrow(v1\_xreal\_0 \ X0) \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k1\_numbers)\Rightarrow(v1\_xreal\_0 \ X0) \quad (11)$$

**Theorem 1**

$$r2\_fdiff\_1 \ k29\_sin\_cos \ (k2\_rcomp\_1 \ (k1\_real\_1 \ (k10\_real\_1 \ k32\_sin\_cos \ np\_2)) \ (k10\_real\_1 \ k32\_sin\_cos \ np\_2))$$