

l31\_sincos10  
(TMQHfnSH5SeKcHPFYwDVnhafp92rnApebs9)

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Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $np\_4 : \iota$  be given. Let  $k3\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  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  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v6\_xxreal\_2 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_4) \wedge (m2\_subset\_1 np\_4 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_4 k5\_numbers) \wedge (m1\_subset\_1 np\_4 k1\_numbers)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (k3\_rcomp\_1 X0 X1 = k2\_xxreal\_1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k1\_rcomp\_1 X0 X1 = k1\_xxreal\_1 X0 X1) \quad (6)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 X0) \wedge (v1\_xxreal\_0 X0) \quad (7)$$

Assume the following.

$$\begin{aligned} & (k1\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2) \in k3\_rcomp\_1 (k1\_real\_1 \\ & (k10\_real\_1 k32\_sin\_cos np\_2)) k6\_numbers) \wedge (k1\_real\_1 (k10\_real\_1 \\ & k32\_sin\_cos np\_4) \in k3\_rcomp\_1 (k1\_real\_1 (k10\_real\_1 k32\_sin\_cos \\ & np\_2)) k6\_numbers) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (v6\_xxreal\_2 (k2\_xxreal\_1 X0 X1)) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (m1\_subset\_1 (k3\_rcomp\_1 X0 X1) (k1\_zfmisc\_1 k1\_numbers)) \quad (10)$$

Assume the following.

$$m1\_subset\_1 k32\_sin\_cos k1\_numbers \quad (11)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k1\_numbers) \Rightarrow (m1\_subset\_1 (k1\_real\_1 X0) k1\_numbers) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (m1\_subset\_1 (k10\_real\_1 X0 X1) k1\_numbers) \quad (13)$$

Assume the following.

$$\forall X0. (v2\_membered X0) \Rightarrow ((v6\_xxreal\_2 X0) \Leftrightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow (\forall X2. (v1\_xxreal\_0 X2) \Rightarrow (((X1 \in X0) \wedge (X2 \in X0)) \Rightarrow (r1\_tarski (k1\_xxreal\_1 X1 X2) X0)))))) \quad (14)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 (k1\_zfmisc\_1 k1\_numbers)) \Rightarrow (v3\_membered X0) \quad (15)$$

Assume the following.

$$\forall X0. (v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (16)$$

Assume the following.

$$\forall X0. (v3\_membered X0) \Rightarrow (v2\_membered X0) \quad (17)$$

Assume the following.

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

**Theorem 1**

$r1\_tarski (k1\_rcomp\_1 (k1\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2))$   
 $(k1\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_4))) (k3\_rcomp\_1 (k1\_real\_1$   
 $(k10\_real\_1 k32\_sin\_cos np\_2)) k6\_numbers)$