

## t26\_sin\_cos9

(TMYHn3DT9CP9aijJVMtEWqbXhRDA9SK28qq)

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Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k2\_sin\_cos9 : \iota$  be given. Let  $k1\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k2\_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k30\_sin\_cos : \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k32\_sin\_cos : \iota$  be given. Let  $np\_4 : \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k19\_sin\_cos : \iota$  be given. Let  $k16\_sin\_cos : \iota$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  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  $k7\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  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  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k4\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v6\_xxreal\_2 : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow ((r1\_tarski X0 X1) \Rightarrow (k5\_relat\_1 (k5\_relat\_1 X2 X1) X0 = k5\_relat\_1 X2 X0)) \quad (1)$$

Assume the following.

$$k10\_xtuple\_0 k19\_sin\_cos = k1\_rcomp\_1 (k1\_real\_1 np\_1) np\_1 \quad (2)$$

Assume the following.

$$k10\_xtuple\_0 k16\_sin\_cos = k1\_rcomp\_1 (k1\_real\_1 np\_1) np\_1 \quad (3)$$

Assume the following.

$$k2\_relset\_1 k1\_numbers (k2\_partfun1 k1\_numbers k1\_numbers k30\_sin\_cos (k1\_rcomp\_1 (k10\_real\_1 k32\_sin\_cos np\_4) (k8\_real\_1 (k10\_real\_1 np\_3 np\_4) k32\_sin\_cos))) = k1\_rcomp\_1 (k1\_real\_1 np\_1) np\_1 \quad (4)$$

Assume the following.

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

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v2\_funct\_1 X1))) \Rightarrow (k2\_funct\_1 (k5\_relat\_1 X1 X0) = k5\_relat\_1 (k2\_funct\_1 X1) (k7\_relat\_1 X1 X0)) \quad (7)$$

Assume the following.

$$k2\_relset\_1 k1\_numbers k2\_sin\_cos9 = k2\_rcomp\_1 k6\_numbers k32\_sin\_cos \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 X1) \Rightarrow (k10\_xtuple\_0 (k5\_relat\_1 X1 X0) = k7\_relat\_1 X1 X0) \quad (9)$$

Assume the following.

$$v2\_funct\_1 (k2\_partfun1 k1\_numbers k1\_numbers k30\_sin\_cos (k2\_rcomp\_1 k6\_numbers k32\_sin\_cos)) \quad (10)$$

Assume the following.

$$((v2\_xxreal\_0 np\_4) \wedge (m2\_subset\_1 np\_4 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_4 k5\_numbers) \wedge (m1\_subset\_1 np\_4 k1\_numbers)) \quad (11)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (12)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (13)$$

Assume the following.

$$k32\_sin\_cos = k31\_sin\_cos \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v5\_relat\_1 X1 X0)) \Rightarrow (k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow(k2\_rcomp\_1 X0 X1 = k4\_xxreal\_1 X0 X1) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_funct\_1 X2)\wedge((v2\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))))\Rightarrow(k2\_partfun2 X0 X1 X2 = k2\_funct\_1 X2) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow(k2\_partfun1 X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(k1\_rcomp\_1 X0 X1 = k1\_xxreal\_1 X0 X1) \quad (19)$$

Assume the following.

$$k8\_real\_1 (k10\_real\_1 np\_3 np\_4) k32\_sin\_cos \in k2\_rcomp\_1 k6\_numbers k32\_sin\_cos \quad (20)$$

Assume the following.

$$k10\_real\_1 k32\_sin\_cos np\_4 \in k2\_rcomp\_1 k6\_numbers k32\_sin\_cos \quad (21)$$

Assume the following.

$$k2\_funct\_1 k2\_sin\_cos9 = k2\_partfun1 k1\_numbers k1\_numbers k30\_sin\_cos (k2\_rcomp\_1 k6\_numbers k32\_sin\_cos) \quad (22)$$

Assume the following.

$$(v1\_relat\_1 (k5\_relat\_1 k30\_sin\_cos (k1\_rcomp\_1 (k10\_real\_1 k32\_sin\_cos np\_4) (k8\_real\_1 (k10\_real\_1 np\_3 np\_4) k32\_sin\_cos))))\wedge(v2\_funct\_1 (k5\_relat\_1 k30\_sin\_cos (k1\_rcomp\_1 (k10\_real\_1 k32\_sin\_cos np\_4) (k8\_real\_1 (k10\_real\_1 np\_3 np\_4) k32\_sin\_cos)))) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow(v6\_xxreal\_2 (k4\_xxreal\_1 X0 X1)) \quad (24)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (25)$$

Assume the following.

$$m1\_subset\_1 \ k32\_sin\_cos \ k1\_numbers \quad (26)$$

Assume the following.

$$v1\_xreal\_0 \ k31\_sin\_cos \quad (27)$$

Assume the following.

$$(v1\_funct\_1 \ k30\_sin\_cos) \wedge (m1\_subset\_1 \ k30\_sin\_cos \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k1\_numbers \ k1\_numbers))) \quad (28)$$

Assume the following.

$$(v1\_funct\_1 \ k2\_sin\_cos9) \wedge (m1\_subset\_1 \ k2\_sin\_cos9 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k1\_numbers \ k1\_numbers))) \quad (29)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (m1\_subset\_1 \ (k2\_rcomp\_1 \ X0 \ X1) \ (k1\_zfmisc\_1 \ k1\_numbers)) \quad (30)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 \ X2) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ X1)))) \Rightarrow ((v1\_funct\_1 \ (k2\_partfun1 \ X0 \ X1 \ X2 \ X3)) \wedge (m1\_subset\_1 \ (k2\_partfun1 \ X0 \ X1 \ X2 \ X3) \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ X1)))) \quad (31)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (m1\_subset\_1 \ (k10\_real\_1 \ X0 \ X1) \ k1\_numbers) \quad (32)$$

Assume the following.

$$k2\_sin\_cos9 = k2\_partfun2 \ k1\_numbers \ k1\_numbers \ (k2\_partfun1 \ k1\_numbers \ k1\_numbers \ k30\_sin\_cos \ (k2\_rcomp\_1 \ k6\_numbers \ k32\_sin\_cos)) \quad (33)$$

Assume the following.

$$\forall X0. (v2\_membered \ X0) \Rightarrow ((v6\_xreal\_2 \ X0) \Leftrightarrow (\forall X1. (v1\_xreal\_0 \ X1) \Rightarrow (\forall X2. (v1\_xreal\_0 \ X2) \Rightarrow (((X1 \in X0) \wedge (X2 \in X0)) \Rightarrow (r1\_tarSKI \ (k1\_xreal\_1 \ X1 \ X2) \ X0)))))) \quad (34)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 \ X0 \ (k1\_zfmisc\_1 \ k1\_numbers)) \Rightarrow (v3\_membered \ X0) \quad (35)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (36)$$

Assume the following.

$$\forall X0.(v3\_membered X0)\Rightarrow(v2\_membered X0) \quad (37)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)) \quad (38)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (39)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (40)$$

Assume the following.

$$\forall X0.(v3\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(v1\_xreal\_0 X1)) \quad (41)$$

**Theorem 1**

$$k2\_partfun1 k1\_numbers k1\_numbers k2\_sin\_cos9 (k1\_rcomp\_1 (k1\_real\_1 np\_1) np\_1) = k2\_partfun2 k1\_numbers k1\_numbers (k2\_partfun1 k1\_numbers k1\_numbers k30\_sin\_cos (k1\_rcomp\_1 (k10\_real\_1 k32\_sin\_cos np\_4) (k8\_real\_1 (k10\_real\_1 np\_3 np\_4) k32\_sin\_cos)))$$