

t15\_integra8  
(TMFn9EMibwo4Qh899K64C9Y8rVss67qSNjT)

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Let  $k6\_sin\_cos6 : \iota \Rightarrow \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k32\_sin\_cos : \iota$  be given. Let  $np\_4 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k20\_sin\_cos : \iota \Rightarrow \iota$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k4\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k21\_sin\_cos : \iota \Rightarrow \iota$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $k31\_sin\_cos : \iota$  be given. Let  $k2\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k29\_sin\_cos : \iota$  be given. Let  $k6\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((r1\_xxreal\_0 k6\_numbers X0) \wedge (r1\_xxreal\_0 X0 k32\_sin\_cos)) \Rightarrow (k6\_sin\_cos6 (k20\_sin\_cos X0) = X0) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 X1) \wedge ((\neg v3\_xxreal\_0 X1) \wedge (\neg v2\_xxreal\_0 X0)))) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2.(v1\_xreal\_0 X2) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge ((\neg r1\_xxreal\_0 X1 k6\_numbers) \wedge ((\neg r1\_xxreal\_0 X2 X1) \wedge (r1\_xxreal\_0 (k7\_xcmplx\_0 X0 X1) (k7\_xcmplx\_0 X0 X2))))))) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k7\_xcmplx\_0 X0 np\_1 = X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow ((X0 \in k4\_xxreal\_1 X1 X2) \Leftrightarrow ((\neg r1\_xxreal\_0 X0 X1) \wedge \\ & (\neg r1\_xxreal\_0 X2 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$k21\_sin\_cos (k10\_real\_1 k32\_sin\_cos np\_4) = k10\_real\_1 (k7\_square\_1 np\_2) np\_2 \quad (7)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_4) \wedge (m2\_subset\_1 np\_4 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_4 k5\_numbers) \wedge (m1\_subset\_1 np\_4 k1\_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & (m2\_subset\_1 np\_0 k1\_numbers k5\_numbers) \wedge ((m1\_subset\_1 np\_0 \\ & k5\_numbers) \wedge (m1\_subset\_1 np\_0 k1\_numbers)) \end{aligned} \quad (10)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (11)$$

Assume the following.

$$k4\_xcmplx\_0 np\_0 = np\_0 \quad (12)$$

Assume the following.

$$\neg r1\_xxreal\_0 np\_4 np\_1 \quad (13)$$

Assume the following.

$$\neg r1\_xxreal\_0 np\_1 np\_0 \quad (14)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (15)$$

Assume the following.

$$k32\_sin\_cos = k31\_sin\_cos \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ( \\ & k2\_rcomp\_1 X0 X1 = k4\_xxreal\_1 X0 X1) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (k21\_sin\_cos X0 = k20\_sin\_cos X0) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k10\_real\_1 X0 X1 = k7\_xcmplx\_0 X0 X1) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (v1\_xreal\_0 (k7\_xcmplx\_0 X0 X1)) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v3\_xxreal\_0 X0) \wedge (v1\_xreal\_0 X0)) \wedge ((\neg v3\_xxreal\_0 X1) \wedge (v1\_xreal\_0 X1))) \Rightarrow (\neg v3\_xxreal\_0 (k7\_xcmplx\_0 X0 X1)) \quad (21)$$

Assume the following.

$$\forall X0.((\neg v3\_xxreal\_0 X0) \wedge (v1\_xreal\_0 X0)) \Rightarrow ((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \wedge (\neg v2\_xxreal\_0 (k4\_xcmplx\_0 X0))) \quad (22)$$

Assume the following.

$$m1\_subset\_1 k32\_sin\_cos k1\_numbers \quad (23)$$

Assume the following.

$$v1\_xreal\_0 k31\_sin\_cos \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (m1\_subset\_1 (k10\_real\_1 X0 X1) k1\_numbers) \quad (25)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((X0 = k31\_sin\_cos) \Leftrightarrow ((k1\_seq\_1 k29\_sin\_cos (k6\_real\_1 X0 np\_4) = np\_1) \wedge (X0 \in k2\_rcomp\_1 k6\_numbers np\_4))) \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ((r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0)) \quad (27)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0) \wedge (v3\_xxreal\_0 X0)) \Rightarrow ((\neg v1\_xboole\_0 X0) \wedge ((v1\_xxreal\_0 X0) \wedge (\neg v2\_xxreal\_0 X0))) \quad (28)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (29)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xcmplx\_0 X0) \quad (30)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (31)$$

**Theorem 1**

$$k6\_sin\_cos6 (k10\_real\_1 (k7\_square\_1 np\_2) np\_2) = k10\_real\_1 \\ k32\_sin\_cos np\_4$$