

t8_sin_cos7 (TMcPFbGLhkXBJbvpPYjok- sNN7TVk5CdGhuF)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k7_square_1 : \iota \Rightarrow \iota$ be given. Let $k12_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k6_square_1 : \iota \Rightarrow \iota$ 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 $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $np_0 : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 X0 X1) \Leftrightarrow (r1_xxreal_0 (k2_xcmplx_0 \\ & X0 X2) (k2_xcmplx_0 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (((r1_xxreal_0 \\ & k6_numbers X0) \wedge (r1_xxreal_0 X0 X1)) \Rightarrow (r1_xxreal_0 (k6_square_1 \\ & X0) (k6_square_1 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$m1_subset_1 \ k1_xboole_0 \ k4_ordinal1 \quad (3)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k2_xcmplx_0 X0 \ k6_numbers = X0) \quad (4)$$

Assume the following.

$$k7_square_1 \ np_1 = np_1 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 \\ & X0 X1) \Rightarrow ((r1_xxreal_0 X0 \ k6_numbers) \vee (r1_xxreal_0 \ np_1 \ (k7_xcmplx_0 \\ & X1 \ X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & (m2_subset_1 \ np_0 \ k1_numbers \ k5_numbers) \wedge ((m1_subset_1 \ np_0 \\ & \quad k5_numbers) \wedge (m1_subset_1 \ np_0 \ k1_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$k2_xcmplx_0 \ np_2 \ np_0 = np_2 \quad (10)$$

Assume the following.

$$k2_xcmplx_0 \ np_1 \ np_1 = np_2 \quad (11)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_2 \ np_0 \quad (12)$$

Assume the following.

$$r1_xxreal_0 \ np_1 \ np_2 \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_xreal_0 \ X0) \wedge (v1_xreal_0 \ X1)) \Rightarrow (k9_binop_2 \\ & \quad X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (k7_square_1 \ X0 = k6_square_1 \\ & \quad X0) \end{aligned} \quad (15)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (16)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_xreal_0 \ X0) \wedge (v1_xreal_0 \ X1)) \Rightarrow (k12_binop_2 \\ & \quad X0 \ X1 = k7_xcmplx_0 \ X0 \ X1) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k9_binop_2 X0 X1) k1_numbers) \quad (19)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k12_binop_2 X0 X1) k1_numbers) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(k9_binop_2 X0 X1 = k9_binop_2 X1 X0) \quad (22)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))\Rightarrow(v3_membered X0) \quad (23)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (24)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (25)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow(v1_xreal_0 X1)) \quad (26)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0)\Rightarrow((r1_xxreal_0 np_1 X0)\Rightarrow(r1_xxreal_0 np_1 (k7_square_1 (k12_binop_2 (k9_binop_2 X0 np_1) np_2))))$$