

t21_sin_cos2
(TMU8jsc1HCCwUgB1fqnmgnCBG8m6fhtR2tw)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_sin_cos2 : \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_sin_cos2 : \iota$ be given. Let $k10_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (k1_seq_1 \\ k1_sin_cos2 (k10_binop_2 X0 X1) = k9_real_1 (k8_real_1 (k1_seq_1 \\ k1_sin_cos2 X0) (k1_seq_1 k4_sin_cos2 X1)) (k8_real_1 (k1_seq_1 \\ k4_sin_cos2 X0) (k1_seq_1 k1_sin_cos2 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (k1_seq_1 \\ k1_sin_cos2 (k9_binop_2 X0 X1) = k7_real_1 (k8_real_1 (k1_seq_1 \\ k1_sin_cos2 X0) (k1_seq_1 k4_sin_cos2 X1)) (k8_real_1 (k1_seq_1 \\ k4_sin_cos2 X0) (k1_seq_1 k1_sin_cos2 X1)))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((k1_seq_1 \\ k1_sin_cos2 (k9_binop_2 X0 X1) = k7_real_1 (k8_real_1 (k1_seq_1 \\ k1_sin_cos2 X0) (k1_seq_1 k4_sin_cos2 X1)) (k8_real_1 (k1_seq_1 \\ k4_sin_cos2 X0) (k1_seq_1 k1_sin_cos2 X1))) \wedge (k1_seq_1 k1_sin_cos2 \\ (k10_binop_2 X0 X1) = k9_real_1 (k8_real_1 (k1_seq_1 k1_sin_cos2 \\ X0) (k1_seq_1 k4_sin_cos2 X1)) (k8_real_1 (k1_seq_1 k4_sin_cos2 \\ X0) (k1_seq_1 k1_sin_cos2 X1)))))) \end{aligned}$$