

Functions involving multiple angles can be solved using the following techniques.

Example 1: Find all solutions of the equation.

a. $\sin 2x - \frac{\sqrt{3}}{2} = 0$

b. $\cos 2x = -\frac{\sqrt{2}}{2}$

c. $\tan \frac{x}{2} - 1 = 0$

Example 2: Use inverse functions to find all solutions.

$$4 \tan^2 x + 5 \tan x = 6$$