

Trigonometric equations can be solved by using

- pencil and paper methods similar to those used to solve algebraic equations, to give exact answers (isolate the variable, use the CAST concepts to solve for ALL of the possible angles)
 - a graphing calculator or graphing software, to give approximate answers.
-

1. Solve each equation for $0^\circ \leq x \leq 360^\circ$.

a) $\sin \theta = -1$

b) $\cos \theta - 0.5 = 0$

c) $4 \cos \theta + 2 = 0$

2. Solve each equation for $0^\circ \leq x \leq 360^\circ$.

a) $\sin^2 x - 1 = 0$

b) $\sin x(\sin x - 1) = 0$

c) $\cos^2 x - 0.25 = 0$

d) $(\sin x - 1)(\tan x + 1) = 0$

e) $\cos^2 x + 3 \cos x + 2 = 0$

3. Solve each equation for $0^\circ \leq x \leq 360^\circ$. Express answers as exact values or as approximate values, to the nearest tenth of a degree.

a) $\sin^2 x + 5 \sin x - 2 = 4 \sin x$

b) $\tan^2 x - 5 \tan x + 6 = 0$