

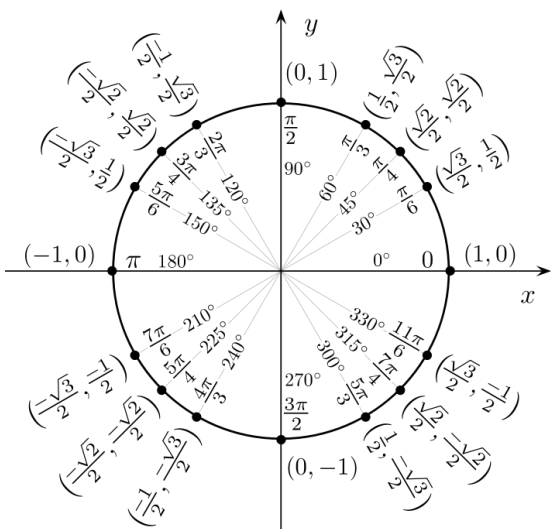
Name:

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### Practice Worksheet: Trigonometric Equations

Solve each equation over  $[0, 2\pi]$  by combining like terms. All answers must be exact in terms of pi.



1]  $\sin x + 2 = 3$

4]  $\sqrt{3} \tan x + 1 = 0$

2]  $4 \sec x + 8 = 0$

5]  $\cot x - \sqrt{3} = 0$

3]  $18 \cos x - 9\sqrt{3} = 0$

6]  $8 \cos x - 4\sqrt{2} = 0$

Solve each equation over  $[0, 2\pi]$  with the square root method. All answers must be exact in terms of pi.

7]  $\sec^2 x - 1 = 0$

10]  $4 \cos^2 x - 1 = 0$

8]  $2 \cos^2 x = 1$

11]  $4 \sin^2 x + 5 = 6$

9]  $3 \tan^2 x - 9 = 0$

12]  $3 \sec^2 x - 4 = 0$

Solve each equation over  $[0, 2\pi]$  by factoring. All answers must be exact in terms of pi.

13]  $\sin^2 x - 3 \sin x + 2 = 0$

17]  $\cot^2 x = -2 \cot x - 1$

14]  $\sin^2 x \cos x = \cos x$

18]  $\sin x - 2 \sin x \cos x = 0$

15]  $2 \cos^2 x - \sqrt{3} \cos x = 0$

19]  $\sec x \csc x = 2 \csc x$

16]  $2 \sin^2 x + \sin x = 1$

20]  $\tan x \csc x - 2 \tan x = 0$