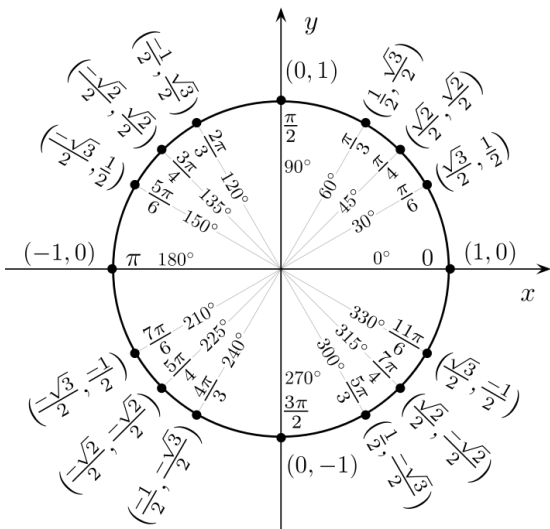Name: Period: Date:

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