

5.3 Solving Trigonometric Equations

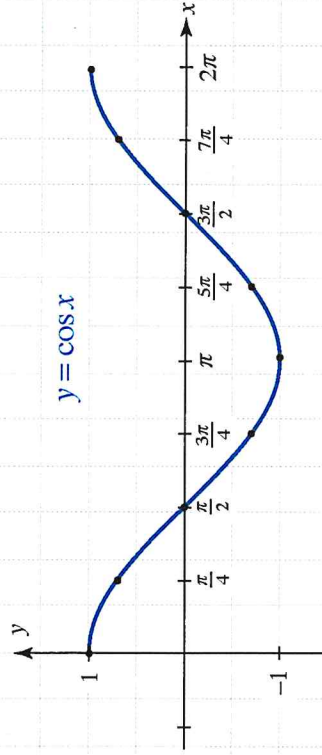
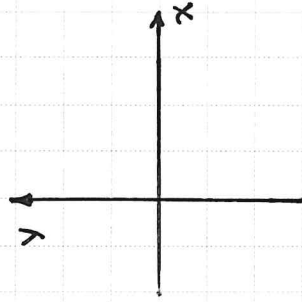
(Part 1)

Recall that: $\sin^2 x + \cos^2 x = 1$ is an identity.

Note that: $\sin x - 1 = 0$ is a conditional equation.

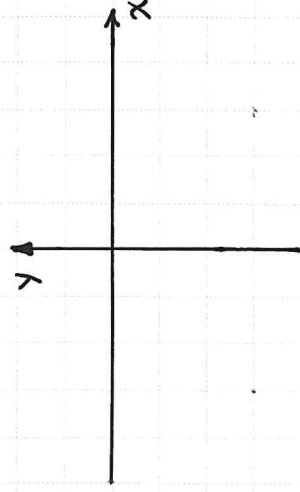
Ex. ① Solve: $\cos x = \frac{1}{2}$ on $[0, 2\pi)$

Quadrant View:



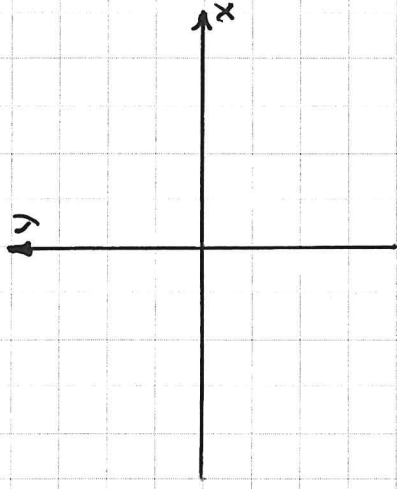
Ex. ② Solve: $\csc x = -\sqrt{2}$ on $[0, 2\pi)$

Quadrant View:



Ex. ③ Solve: $\tan x = -1$ on $[0, 2\pi)$

Quadrant View:



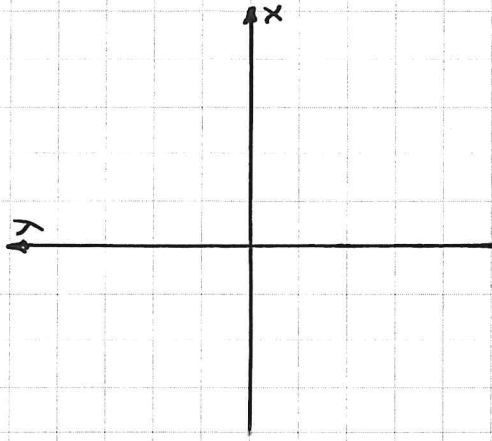
Ex. ④ Solve: $\sin x = 1 - \sin x$ on $(-\infty, \infty)$

Quadrant View:

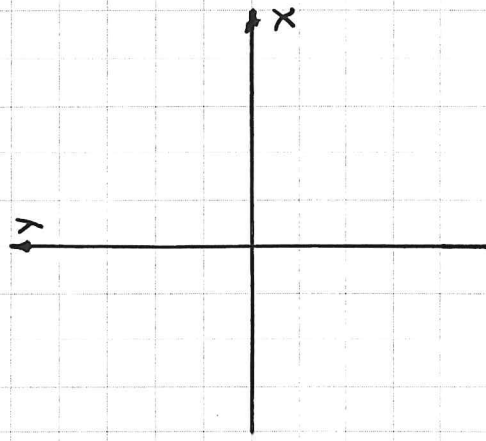


Ex. ⑤ Solve: $\tan^2 x - 3 = 0$ on $(-\infty, \infty)$.

Quadrant View:



Quadrant View:



Ex. ⑥ Solve: $\cos^2 x + \cos x = 0$ on $[0, 2\pi)$

