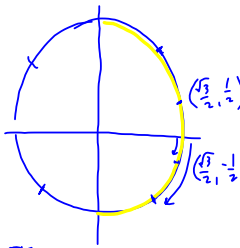
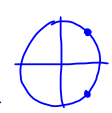


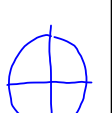
Starter


- $\tan^{-1}(1) = \frac{\pi}{4}$
- $\sin^{-1}\left(-\frac{\sqrt{2}}{2}\right) = -\frac{\pi}{4}$
- $\cos^{-1}\left(\frac{\sqrt{3}}{2}\right) = \frac{\pi}{6}, \frac{5\pi}{6}$
- $\sin^{-1}\left(\sin\frac{3\pi}{4}\right) = \frac{\pi}{4}$

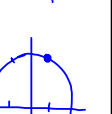


6.3 solve trig equations

$\cos X = \frac{\sqrt{6}}{2}$    $X = \frac{\pi}{4}, \frac{7\pi}{4}$

$\sin X = -\frac{\sqrt{3}}{2}$    $X = \frac{4\pi}{3}, \frac{5\pi}{3}$

$\tan X = \phi$    $X = \frac{\pi}{2}, \frac{3\pi}{2}$

$\cos X = \frac{1}{2}$    $X = \frac{\pi}{3}, \frac{5\pi}{3}$

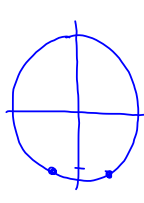
$2 \sin X + \sqrt{3} = 0$

$2 \sin X = -\sqrt{3}$

$\sin X = -\frac{\sqrt{3}}{2}$


$X = \frac{4\pi}{3}, \frac{5\pi}{3}$

$\frac{4\pi}{3}$



$2 \sin^3 X - \sin X = 0$

$\sin X (2 \sin^2 X - 1) = 0$

$\sin X = 0$    $X = 0, \pi$

$2 \sin^2 X - 1 = 0$

$2 \sin^2 X = 1$

$\sin^2 X = \frac{1}{2}$

$\sin X = \pm \frac{\sqrt{2}}{2}$

$X = \frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

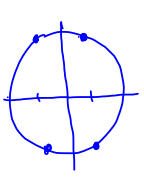
$4 \cos^2 X - 1 = 0$

$4 \cos^2 X = 1$

$\sqrt{\cos^2 X} = \sqrt{\frac{1}{4}}$

$\cos X = \pm \frac{1}{2}$

$X = \frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3}$



$12 \tan^2 X - 4 = 0$

$\frac{4}{12} = \frac{1}{3}$

$12 \tan^2 X = 4$

$\sqrt{\tan^2 X} = \sqrt{\frac{1}{3}}$

$\tan X = \pm \frac{\sqrt{3}}{3}$

$X = \frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$

$\frac{1}{2}, \frac{\sqrt{3}}{2}, \frac{1}{\sqrt{3}}$

$\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$  