

ASSIGNMENT-1

1) Convert the following degree measure to radian measure

- 1) 45° 4) 135°
2) 60° 5) 180°
3) 90°

		1)	2)	3)	5)		
Degree	30°	45°	60°	90°	180°	270°	360°
Radian	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π

$$4) \mathbf{135^{\circ} = 135 \times \frac{\pi}{180} \text{ radians}}$$

$$\therefore \mathbf{135^{\circ} = \frac{3\pi}{4} \text{ radians}}$$

2) Convert the following radian measure to degree measure

1) $\frac{7\pi}{6}$ 3) $\frac{11}{16}$ (use $\pi = \frac{22}{7}$)

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

$$1) \frac{7\pi}{6} \text{ radians} = \frac{7\pi}{6} \times \frac{180^\circ}{\pi} = 210^\circ.$$

$$2) 4\pi/3 \text{ radians} = 4\pi/3 \times 180^\circ/\pi = 240^\circ$$

$$3) \frac{11}{16} \text{ radians} = \frac{11}{16} \times \frac{180^\circ}{\pi} = \frac{11}{16} \times \frac{180 \times 7}{22} = \left(\frac{315}{8}\right)^\circ$$

$$= 39^\circ + \left(\frac{3}{8}\right)^\circ = 39^\circ + \frac{3 \times 60'}{8}$$

$$= 39^\circ + \left(\frac{45}{2}\right)' = 39^\circ + \left(22\frac{1}{2}\right)' = 39^\circ 22' + \frac{1}{2} \times 60''$$

$$= 39^\circ 22' 30'' \text{ (approx.)}$$