

Chapter' 4: Trigonometric functions.

• real world app: waves.

- Convert between
radian and degree

$$\frac{\pi}{180^\circ} \text{ or } \frac{180^\circ}{\pi}$$

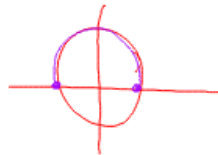
• degree to radian

• radian to degree

$$\frac{\pi}{180^\circ}$$
$$\frac{180^\circ}{\pi}$$

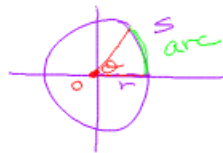
• $\pi = 3.14 \dots$

$$\pi = 180^\circ$$



$\frac{\pi}{3}$ rad
↓
invisible

- Intercepted arc



θ : central angle

S: intercepted arc

r: radius of the circle

$$S = r\theta$$

if θ is given in degrees

$$S = \left(\frac{\pi}{180^\circ} \right) r\theta$$

- Quick review p 325 # 1-4 (QR)
- p 325 : 17-32
- Review of Pythagorean p 334 # 1-4 (QR)