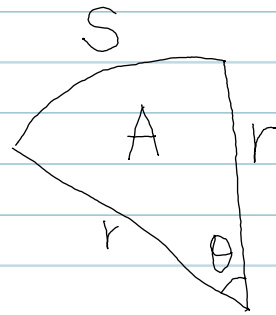


扇形面積與弧長

- (1) 設一扇形的半徑為8公分，所對的圓心角為 60° ，求 (a) 扇形弧長 (b) 扇形面積

$$\begin{aligned} \text{Sol. (a) } S &= r \cdot \theta \\ &= 8 \cdot \frac{\pi}{3} = \frac{8\pi}{3} \end{aligned}$$

$$\begin{aligned} \text{(b) } A &= \frac{1}{2} r^2 \cdot \theta \\ &= \frac{1}{2} \cdot \cancel{64} \cdot \frac{\pi}{3} = \frac{32\pi}{3} \end{aligned}$$



$$\begin{aligned} S &= r \cdot \theta \quad (\text{弧度}) \\ A &= \frac{1}{2} r^2 \theta \end{aligned}$$

- (2) 設一扇形弧長為 8π ，面積為 40π ，則此扇形的 (a) 周長 (b) 圓心角 各為多少？

$$\text{Sol. } S = 8\pi, \quad A = 40\pi$$

$$\frac{40\pi}{5} = \frac{1}{2} r \cdot 8\pi$$

$$r = 10$$

$$\begin{aligned} \text{(a) } S &= 8\pi \quad r = 10 \\ &20 + 8\pi \end{aligned}$$

$$\text{(b) } 8\pi = 10 \cdot \theta \Rightarrow \theta = \frac{8\pi}{10} = \frac{4\pi}{5}$$

