


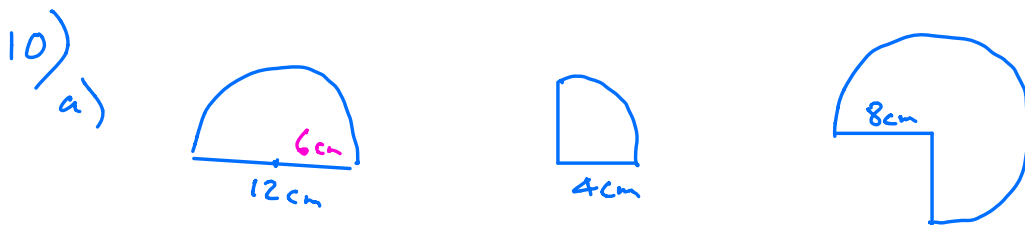
Exercise 4A

5a) Radius $70 \text{ cm} = 0.7 \text{ m}$
Circumference $= 2\pi r = 2 \times \pi \times 0.7$
 $= 4.40 \text{ m}$

5b) 20 m pitch $\frac{20}{4.40} = 4.545$ revolutions
so 4 complete revolutions

7) Circumference $2\pi r = 25 \text{ cm}$
 $r = \frac{25}{(2\pi)}$
 $r = 3.98 \text{ cm}$
 $\Rightarrow d = 3.98 \times 2$
 $= 7.96 \text{ cm}$

9)  radius 7.5 cm
Perimeter $\frac{2\pi r}{2} = \pi \times 7.5$
 $= 7.5\pi$



$$\begin{aligned}
 \text{a)} \quad & \frac{\pi r^2}{2} \\
 & = \frac{\pi \times 6^2}{2} \\
 & = 18\pi \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 & \frac{\pi r^2}{4} \\
 & = \frac{\pi \times 4^2}{4} \\
 & = 4\pi \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 & \frac{\pi r^2 \times \frac{3}{4}}{4} \\
 & = \frac{\pi \times 8^2 \times 3}{4} \\
 & = 48\pi \text{ cm}^2
 \end{aligned}$$

ii)

a



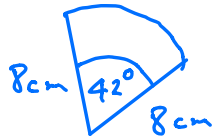
$$\text{Large Circle} = \pi \times 5^2 = 25\pi$$

$$\text{Small Circle} = \pi \times 3^2 = 9\pi$$

$$\text{Shaded bit} = 16\pi \text{ m}^2$$

Sectors - Area and Arc Length

Example



$$\text{Area} = \pi r^2 \times \frac{42}{360}$$

$$= \pi \times 8^2 \times \frac{42}{360} \text{ cm}^2$$

$$= 23.5 \text{ cm}^2$$

$$\text{Arc length} = 2\pi r \times \frac{42}{360}$$

$$= 2 \times \pi \times 8 \times \frac{42}{360} = 5.86 \text{ cm}$$

Exercise 4C Q1 all 4 parts