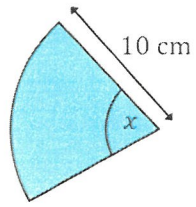
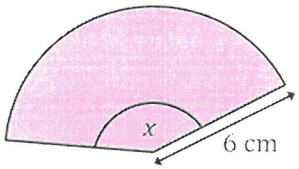
Sector Problems in Reverse

Find the missing angle, giving your answer correct to 1 decimal place.

(a) Area $= 70\ \text{cm}^2$ (b) Area $= 40\ \text{cm}^2$





(a) $\frac{x}{360} \times \pi \times 10^2 = 70$

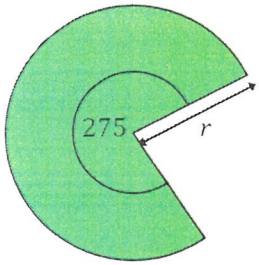
$x = 80.2°$

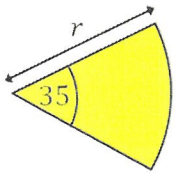
(b) $\frac{x}{360} \times \pi \times 6^2 = 40$

$x = 127.3°$

Find the missing radius, giving your answers correct to 1 decimal place.

(a) Area $= 135\ \text{cm}^2$ (b) Area $= 44\ \text{cm}^2$





(a) $\frac{275}{360} \times \pi \times r^2 = 135$

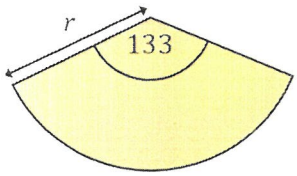
$r = 7.5\text{cm}$

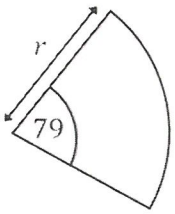
(b) $\frac{35}{360} \times \pi \times r^2 = 44$

$r = 12.0\text{cm}$

Find the missing radius, giving your answers correct to 1 decimal place.

(a) Arc $= 30\ \text{cm}$ (b) Arc $= 15\ \text{mm}$





(a) $\frac{133}{360} \times \pi \times 2r = 30$

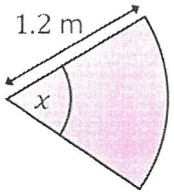
$r = 12.9\text{cm}$

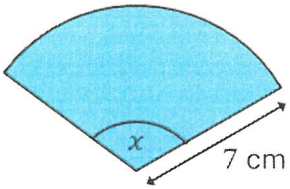
(b) $\frac{79}{360} \times \pi \times 2r = 15$

$r = 10.9\text{mm}$

Find the missing angle, giving your answer correct to 1 decimal place.

(a) Arc $= 1.4\ \text{m}$ (b) Perimeter $= 29\ \text{cm}$





(a) $\frac{x}{360} \times \pi \times 2.4 = 1.4$

$x = 66.8°$

(b) arclength $= 15\text{cm}$

$\frac{x}{360} \times \pi \times 14 = 15$

$x = 122.8°$

A sector with an angle of $40°$ and radius of $11\ \text{cm}$ has an area which twice that of a sector with angle $65°$ and radius r. Find r to 1 decimal place.

$\frac{40}{360} \times \pi \times 11^2 = \frac{121\pi}{9}$

$A = \frac{121\pi}{18} = \frac{65}{360} \times \pi \times r^2$

$r = 6.1\text{cm}$