

(C2-6.3a)

Name:

Homework Questions 3 – Finding the Area of a Sector

1. Calculate the area of the sectors, given your answer correct to 3 sf

a) $r = 4\text{cm}$ $\theta = \frac{5\pi}{2}$

62.8cm^2

b) $r = 8\text{cm}$ $\theta = \frac{9\pi}{4}$

226cm^2

c) $r = 12\text{cm}$ $\theta = 8.6 \text{ rads}$

619cm^2

2. Calculate the area of these sectors, give your answers in terms of π

a) $r = 5\text{cm}$ $\theta = 72^\circ$

5π

b) $r = 9\text{m}$ $\theta = 180^\circ$

$\frac{81\pi}{2}$

c) $r = 7\text{cm}$ $\theta = 60^\circ$

$\frac{49\pi}{6}$

3. Calculate the angle at the centre in degrees, given the area of a sector and the radius

a) $A = 56 \text{ cm}^2$, $r = 9\text{cm}$

79.2°

b) $A = 18\pi \text{ cm}^2$, $r = 12\text{cm}$

45°

c) $A = 25.6 \text{ cm}^2$, $r = 13\text{cm}$

17.4°

4. Calculate angle at the centre in radians, given the area of a sector and the radius

a) $A = 17 \text{ cm}^2$, $r = 3.1\text{cm}$

3.54 rads

b) $A = 125 \text{ cm}^2$, $r = 19\text{cm}$

0.69 rads

c) $A = 45 \text{ m}^2$, $r = 6.9\text{m}$

1.89 rads