(1) Convert the following exact values into degrees:

(a) $\dfrac{\pi}{3}$

(b) $\dfrac{\pi}{4}$

(c) $\dfrac{3\pi}{5}$

(d) $\dfrac{7\pi}{12}$

(2) Convert the following into degrees giving your answers to 3 significant figures:

(a) 2.13^{c}

(b) 4.65^{c}

(c) 5.1^{c}

(3) Convert the following values into radians giving your answers in exact form:

(a) 180°

(b) 135°

(c) 270°

(d) 60°

(4) Convert the following into radians giving your answers to 3 significant figures:

(a) 134°

(b) 97°

(c) 12°

(For Q5 onwards all diagrams of sectors show the centre of the sector and 2 radii.)
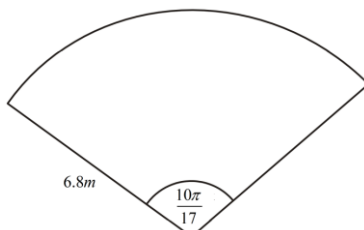
(5) Find the arc length for each sector below giving your answer to 3 significant figures:
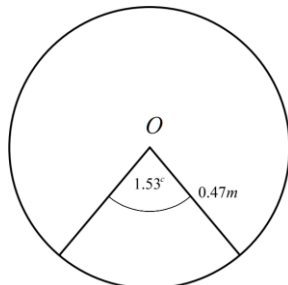
(a)

(b)

(c)
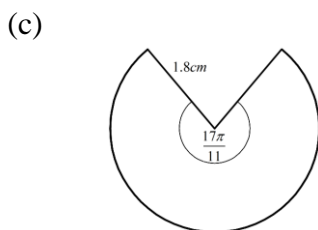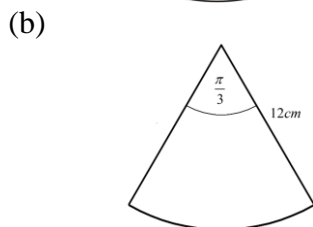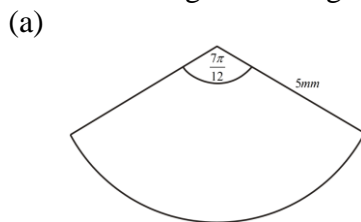
(6) Find the value of θ in the diagram below, given that the radius of the sector is $9.4km$ and the arc length is $20.15km$
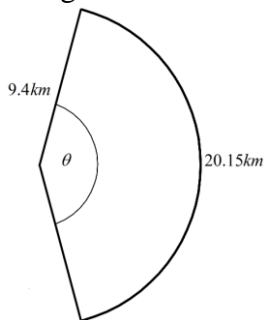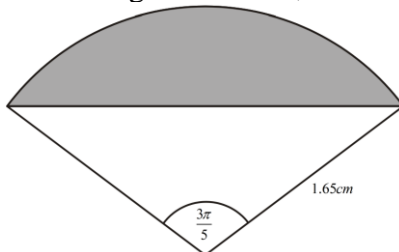

(7) (a) Find the area of the sector below:

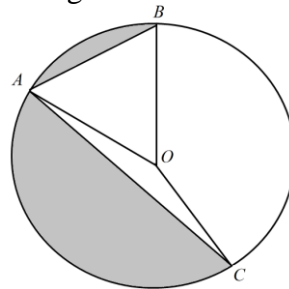(b) Find the area of the major sector below:

(8) (a) Find the area of the shaded segment below;

(b) A circle with centre O and radius $8m$ has the points A, B & C on its circumference. Given that $\angle AOB = 1.1^{c}$ and $\angle BOC = 2.05^{c}$, find the combined area of the two shaded segments shown below.


(9) A circle has centre O and radius $7.2cm$. A, B and C lie on the circumference of the circle. Given that $\angle CAB = 1.4^{c}$, find:
(a) The length of the minor arc BC.
(b) The area of shaded sector.
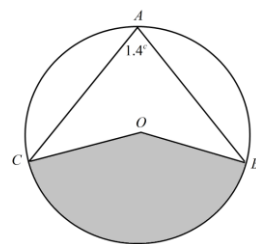
(10) The diagram below shows a sector with centre O and radius $8m$. A line is drawn vertically from B to the line AO such that the two lines are perpendicular. Find:
(a) The area of the shaded region.
(b) |The perimeter of the shaded region.
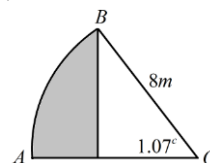
(11) Below is a picture of a circle with centre O and diameter $AC = 12cm$.
The line EF is a tangent and the line DB is parallel to EF.
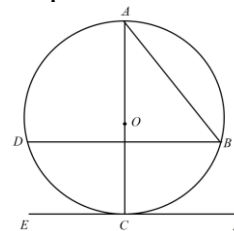
Given that $\angle AOB = 2.01^{c}$ find:
(a) The arc length BC.
(b) The area of the $\triangle ODB$.