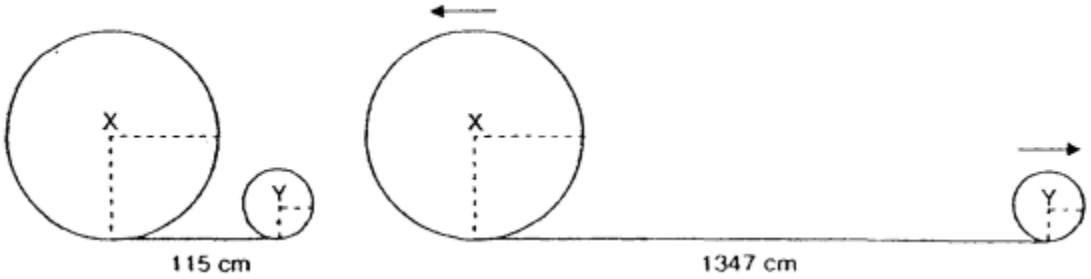
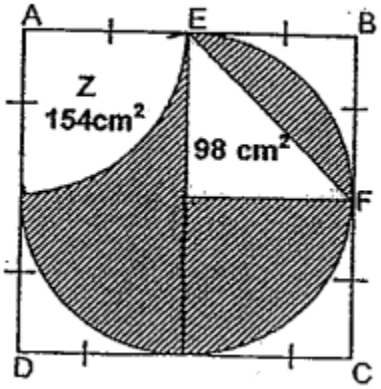
Two wheels shown below with centres X and Y are 115 cm apart. The diameter of the big wheel is 70 cm. The ratio of the small wheel to the radius of the big wheel is 2:5. Both wheels are rolled out in opposite direction shown until they are 1347 cm apart. The two wheels need to make the same number of revolutions. How many revolutions does each wheel make assuming does each wheel must make a complete revolution? (Take $\pi = \frac{22}{7}$)

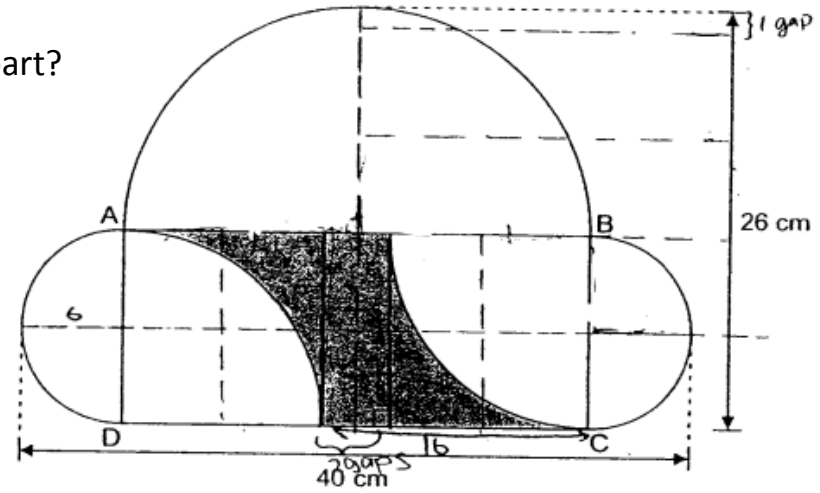


In the figure below, ABCD is a square. O is the centre of the circle. The area of triangle EOF is 98 cm² and the area of quadrant Z is 154 cm². Find the area of the shaded region. (Take $\pi = \frac{22}{7}$)



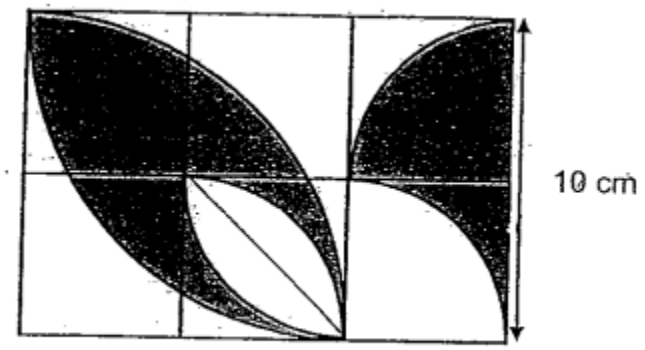
The figure below is made up of 3 semicircles, 2 quarter circles and a shaded part.
ABCD is a rectangle.

(a) What is the perimeter of the shaded part?
(b) What is the area of the shaded part?
(Take π = 3.14)



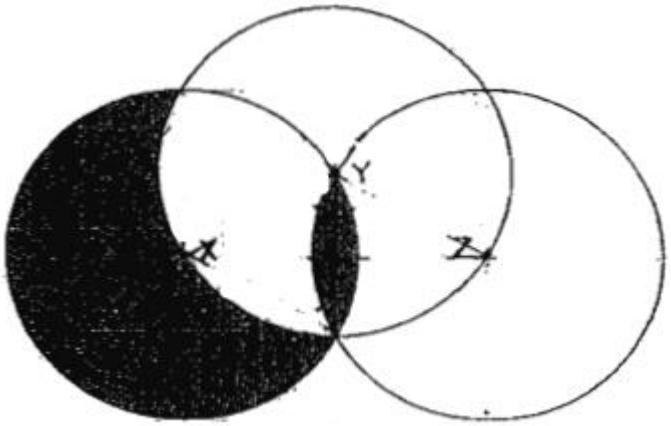
The figure below, not drawn to scale, is made up of identical squares and quadrants.

Find the total area of the unshaded parts. (Take π = 3.14)



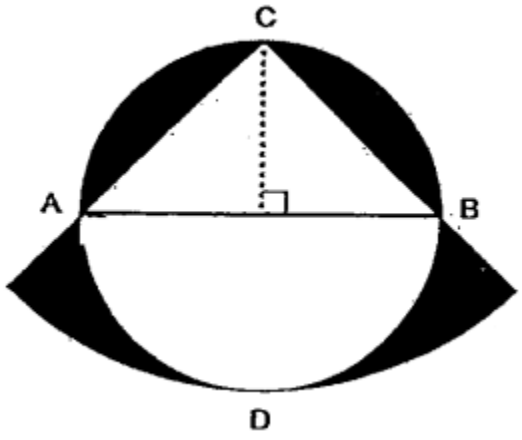
The figure below is made up of 3 circles with the same radius 10 cm. X, Y and Z are the centres of the circles respectively. For each of the following, use the calculator value of π to find

(a) the perimeter of the shaded parts, correct to 2 decimal places.
(b) the area of the shaded parts, correct to 2 decimal places.



The figure below is made up of a quadrant, a circle and a triangle overlapping one another. The quadrant touched the circle at point D. The circle, with centre O, has a diameter of 16 cm. Given that AB is perpendicular to OC, what is the area of the shaded region?

(Take π = 3.14)



Figures A and B below are each formed by overlapping 7 circular rings of radius 10 m each. The ring in the middle in both figures passes through the centres of the 6 outer rings.

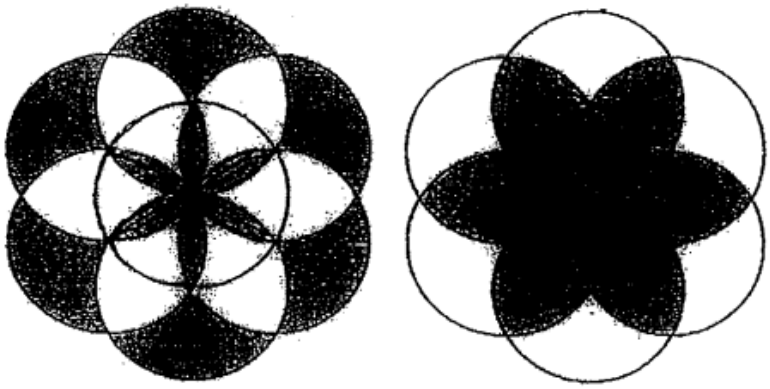


Figure A

Figure B

Use the calculator value of π to find the total area of the shaded regions in both figures, correct to 2 decimal places.

The figure below is made up of 3 identical circles and an equilateral triangle touching the points P, Q and R on the circles. Given that the area of the triangle PQR is 60 cm² and the diameter of the circle is 14 cm, find the area of the shaded part using the calculator value of π.

(Give your answer correct to 2 decimal places)