

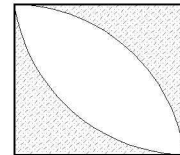
International Indian School-Riyadh

SA 2 Work sheet ... Mathematics

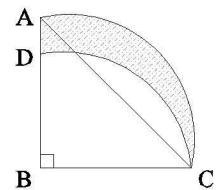
Area Related to Circles

Class: X

- 1) Find the area other than the area common between two quadrants of the circles of radius 16 cm each, which is shown as in the shaded region in the figure. [ans. $\frac{768}{7}$ cm²]

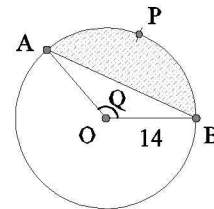


- 2) in the figure in $\triangle ABC$, $\angle B = 90^\circ$, $AB = 48$ cm & $BC = 14$ cm. With AC as diameter a semicircle is drawn and with BC as radius a quadrant of a circle is drawn. Find the area of the shaded region.



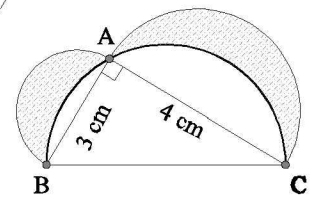
[ans. 1164.14 cm²]

- 3) Find the area of the segment of a circle of radius 14 cm, if the length of the corresponding arc APB is 22 cm.



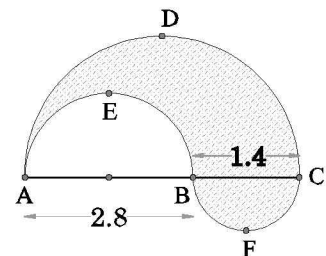
[ans. 56 cm²]

- 4) In the figure ABC is a right angled triangle with $\angle A = 90^\circ$, $AB = 3$ cm & $AC = 4$ cm. Semicircles are drawn with BC, AB & AC as diameters. Find the area of the shaded region.



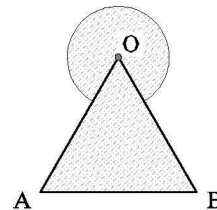
[ans. 6 cm²]

- 5) In the figure, find the perimeter of the shaded region where ADC, AEB & BFC are semicircles on diameters AC, AB & BC respectively. Where $AB = 2.8$ cm & $BC = 1.4$ cm.



[ans. 13.2 cm]

- 6) Find the area of the shaded region, where a circular arc of radius 7 cm has been drawn with vertex O of an equilateral $\triangle OAB$, of side 12 cm as center.



- 7) From a thin metallic piece, in the shape of a trapezium ABCD in which $AB \parallel DC$, and $\angle BCD = 90^\circ$ a quarter circle BFEC is removed. Given $AB = BC = 3.5$ cm and $DE = 2$ cm, calculate the area of the remaining (shaded) part of the metal sheet. [ans. 6.125 cm²]

