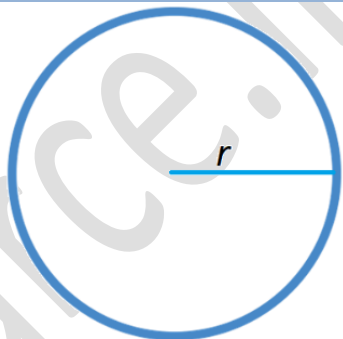
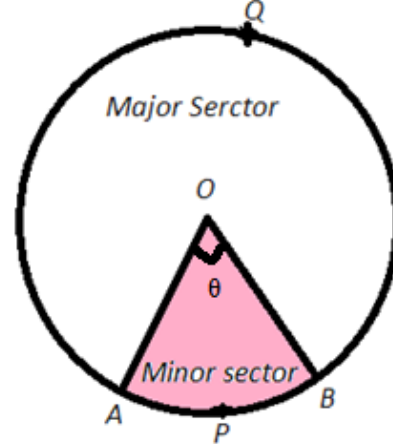
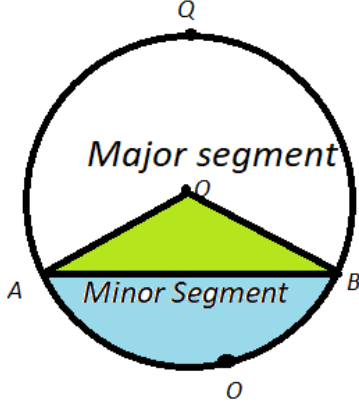
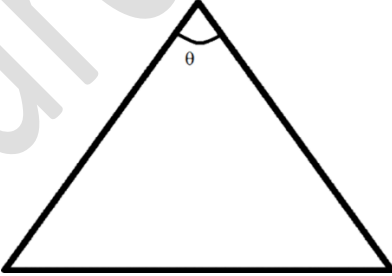
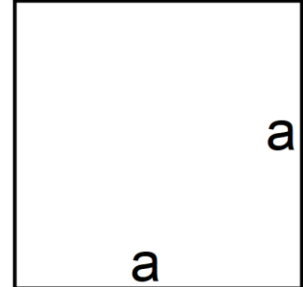


Chapter: - 12
AREAS RELATED TO CIRCLES
Formulas

SR. NO.	Formula	Shape
a)	1. Circumference/ Perimeter of the circle = $2\pi r$ 2. Area of the circle = πr^2 3. Area of Semicircle = $\frac{1}{2}\pi r^2$	 <p>A diagram of a circle with a blue outline. A horizontal radius line is drawn from the center to the right edge, labeled with the letter 'r'.</p>
b)	1. Area of Minor sector of angle $\theta = \frac{\theta}{360}\pi r^2$ 2. Area of Major Sector = (area of circle – Area minor Setor) $= (\pi r^2 + \frac{\theta}{360}\pi r^2)$ 3. length of an arc of a sector of angle $\theta = \frac{\theta}{360} 2\pi r$	 <p>A diagram of a circle with center 'O'. A minor sector is shaded in pink, bounded by radii 'OA' and 'OB' and the arc 'AB'. The angle at the center is labeled 'θ'. The major sector is the larger part of the circle, bounded by radii 'OA' and 'OB' and the arc 'AQB'. The center 'O' is at the top, and points 'A' and 'B' are on the bottom arc. Point 'P' is on the arc 'AB', and point 'Q' is on the arc 'AQB'.</p>

c)	<p>1. Area of minor Segment = (Area of Minor sector – Area of triangle) = $\left(\frac{\theta}{360} \pi r^2 - \frac{1}{2}(\text{base} \times \text{height})\right)$</p> <p>2. Area of Major Sector = (Area of circle – Area of Minor Sector) = $\left(\pi r^2 - \frac{\theta}{360} \pi r^2 - \frac{1}{2}(\text{base} \times \text{height})\right)$</p>	
d)	<p>1. Area of triangle = $\frac{1}{2}(\text{base} \times \text{height})$</p> <p>Or</p> $\frac{\sin \theta}{2} (\text{side})^2$	
e)	<p>1. Area of square = $(\text{side})^2 = (a)^2$</p> <p>2. Perimeter of Square = sum of all sides $(4a)$</p>	
f)	<p>1. Area of rectangle = $(\text{length} \times \text{breadth}) = (L \times B)$</p> <p>2. Perimeter of rectangle = $(\text{sum of all sides}) = 2(L + B)$</p>	