

# Vandana Tutorial

Mapping your future...

## CLASS IX

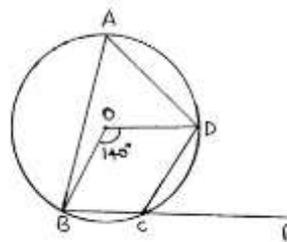
### SAMPLE PAPER

### MATHS

(Circles, area of ||gm and construction)

(Section A – one mark each)

1. Any angle in the semicircle is  
 (a)  $90^\circ$  (b) 1 right angle (c)  $270^\circ$  (d) both a and b



2. Find angle  $\angle PCD$

A.  $140^\circ$  (b)  $110^\circ$  (c)  $70^\circ$  (d)  $60^\circ$

3. A circle has in finite number of chords. True or false.

4. An arc is a ----- when its ends are ends of diameter.  
 5. Parallelograms on the same base and b/w the same parallels are equal in area. True or false.  
 (Section B – two marks each)

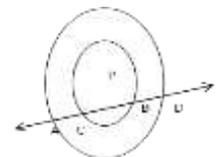
6. D and E are the points on the side AB and AC respectively of triangle ABC such that  $\text{ar}(\triangle DBC) = \text{ar}(\triangle EBC)$ .  
 Prove that  $DE \parallel BC$ .

7. P and Q are any two points lying on the sides DC and AD respectively of a parallelogram ABCD. Show that  $\text{ar}(\triangle APB) = \text{ar}(\triangle BQC)$ .

8. Construct a triangle with base of length 8 cm, difference of two sides 3.5 cm and one of the angles of the base as  $45^\circ$ .

9. In the figure,  $l$  is a line which intersects two concentric circles with centre P at points A, C, D and B, Prove that  $AC = DB$

10. XY is a line parallel to side BC of triangle ABC. If  $BE \parallel AC$  and  $CF \parallel AB$  and meet XY at E and F respectively, show that  $\text{ar}(\triangle ABE) = \text{ar}(\triangle ACF)$



(section B- three marks each)

11. If circles are drawn taking two sides of triangle as diameters prove that the point of intersection of these circles lie on the third sides.
12. Construct a triangle ABC, in which  $\angle A=30^\circ$ ,  $\angle B=90^\circ$  and  $AB+BC+AC=13$  cm
13. Prove that angle subtended by an arc of a circle at the center is double the angle subtended by it any point on the remaining part of the circle.
14. Prove that the cyclic ||gm is a rectangle.

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