

# BHARAT SCHOOL OF BANKING

## GEOMETRY

1. If ABCD is a parallelogram in which P and Q are the centroid of triangle ABD and triangle BCD , then PQ equals :

- A. AQ
- B. AP
- C. BP
- D. DQ

2. Two parallelograms stand on equal bases and between the same parallels. The ratio of their areas is :

- A. 1:1
- B. 2:1
- C. 1:3
- D. 1:2

3. ABCD is parallelogram and M is the mid-point of BC. AB and DM are produced to meet at N, then :

- A.  $AN = 3AB$
- B.  $AN = 2AB$
- C.  $AN = \frac{3}{2}AB$
- D. None of these

4. Diagonals of a parallelogram are 8 m and 6 m respectively . If one of side is 5 m , then the area of parallelogram is :

- A. 18 msq
- B. 30msq
- C. 24msq
- D. 48msq

5. The measures of the angle of quadrilateral taken in order are proportional to 1 : 2 : 3 : 4 then the quadrilateral is :

- A. parallelogram
- B. Trapezium
- C. Rectangle
- D. Rhombus

6. In a parallelogram ABCD , bisectors of consecutive angles A and B intersect at P. find the measure of angle APB :

- A. 90
- B. 60
- C. 120
- D. data insufficient

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## GEOMETRY

7. The sides of triangle are 12 cm, 8 cm and 6 cm. respectively, the triangle is :

- A. acute
- B. obtuse
- C. right
- D. can't determined

8. The point in the plane of a triangle which is at equal perpendicular distance from the sides of the triangle is :

- A. Centroid
- B. Incentre
- C. Circumcentre
- D. Orthcentre

9. If D is such a point on the side, BC of triangle ABC that  $AB/AC = BD/CD$  then AD must be a/an :

- A. altitude of triangle ABC
- B. median of triangle ABC
- C. angle bisector of ABC
- D. perpendicular bisector of ABC

10. An angle is 30 more than one half of its complement. find the angle in degree :

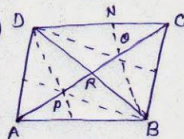
- A. 60
- B. 50
- C. 45
- D. 80

ANSWERS AND SOLUTION

# BHARAT SCHOOL OF BANKING GEOMETRY

① Let AC and BA bisect each other at R, then  
 $AP = 2PR$ ,  $OQ = 2RO$ .

[ $\because$  AR and CR are the median of  $\triangle AAB$  and  $\triangle AAC$ ]  
 and  $AP = OQ$  and  $PR = RO$  ( $\because \triangle APR \cong \triangle CRO$ )  
 $AP = PO$

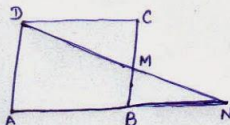


②(A) Since their base and perpendicular height are same.

③  $AD = 2BM$  and  $AD \parallel BM$   
 From mid-point theorem

$$\frac{NM}{NA} = \frac{NB}{NA} = \frac{BM}{AA} = \frac{1}{2}$$

$$AN = 2AB$$



④ Let  $BA = 6m$  and  $AC = 8m$   
 $AD = 4m$  and  $BO = 3m$

Let  $AB = 5m$

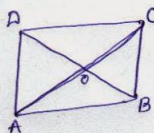
$$\therefore \angle AOB = 90^\circ$$

$$\Rightarrow \angle BOC = \angle AOA = \angle AOC = 90^\circ$$

$\therefore BC$  is also  $5m$ .

Hence,  $ABCA$  is a rhombus

$$\therefore \text{Area of rhombus } ABCA = \frac{AC \times BA}{2} \Rightarrow \frac{6 \times 8}{2} = 24m^2$$

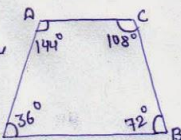


⑤  $x + 2x + 3x + 4x = 360^\circ$

$$\Rightarrow x = 36^\circ$$

$\therefore$  The angle of quadrilateral (in order) are  
 $36^\circ, 72^\circ, 108^\circ, 144^\circ$

Since opposite angle are supplementary,  
 therefore  $AB \parallel CA$  Hence it is a trapezium.



⑥  $\angle AAB = 2x$

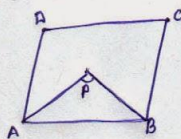
$$\angle ABC = 2y$$

$$2x + 2y = 180^\circ$$

$$x + y = 90^\circ$$

i.e.,  $\angle PAB + \angle PBA = 90^\circ$

$$\angle APB = 90^\circ$$



⑦  $12^2 > 8^2 + 6^2 \Rightarrow$  obtuse triangle.

⑧(B)

⑨(C)

⑩ Let the angle be  $x$ , then its complementary angle be  $(90-x)$

$$\therefore x - \frac{(90-x)}{2} = 30 \Rightarrow x = 50$$

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