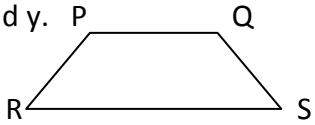
INDIAN SCHOOL MUSCAT
SENIOR SECTION
DEPARTMENT OF MATHEMATICS
CLASS IX
WORKSHEET NO-8
QUADRILATERALS

SECTION A: (1 MARK)

1. In a Trapezium PQRS . If PQ is parallel to RS, Find x and y. ∠P=2x+10, ∠Q=92°, ∠R=x+20 , ∠S = y



(x=50°, y= 88°)

2. If one angle of a Parallelogram is 36° less than twice its adjacent angle, then find the angles of Parallelogram. (108°,72°, 108°, 72°)

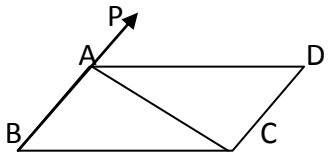
3. In quadrilateral ABCD, ∠A=70° ,∠B=130° ,bisectors of ∠C and ∠D meet at O. Find ∠COD (∠COD=100°)

SECTION B: (2 MARKS)

4. ABCD is II^{m}, AP is the bisector of ∠A meeting BC at P and P is the mid- point of BC then prove that AD = 2 XCD

5. Prove that a diagonal of a parallelogram divides it into two congruent triangles. (CBSE 2010)

6. InΔABC , AB=AC , CD=AB and AD is the bisector of ∠PAC Prove that ABCD is a II^{m}



7. In a quadrilateral ABCD
The ∠A:∠B:∠C are in the ratio 2:3:1 and ∠D = 60° find other angles (100° 150° 50°)

SECTION C: (3 MARKS)

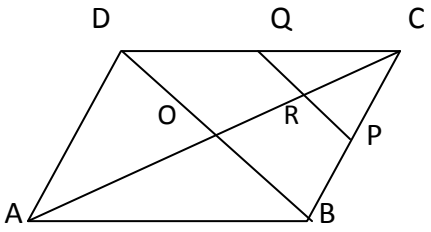
8. In a Parallelogram, show that the angle bisectors of two adjacent angles intersect at right angle.

9. Diagonals of quadrilateral ABCD bisect each other. If ∠ A =35° then find ∠ B
(NCERT EXEMPLAR) (145°)

10. BD is one of the diagonal of a quadrilateral ABCD. AM and CN are perpendiculars from A and C respectively on BD Show that ar(☐ ABCD)= $\frac{1}{2}$ BD (AM+ CN)

11. ABCD is a II^{m} and P & Q are mid –points of BC & CD respectively .

Show that *CR* = $\frac{1}{4}AC$

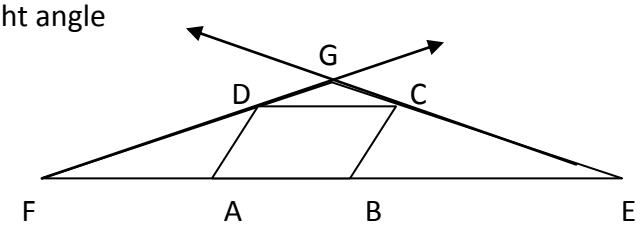


SECTION D: (4 MARKS)

12. In ΔABC is isosceles with AB=AC. Points D, E and F are the mid-points of sides BC, CA and AB respectively. Show that the line segment AD is perpendicular to the line segment EF and is bisected by it.

13. In the figure ABCD is a Rhombus AB is extended to points F and E such that AF=AB=BE. FD and EC are extended to meet at G

Show that $\angle$FGE is a right angle



14. P,Q,R and S are respectively the mid –points of the sides of AB, BC , CD and AD of a quadrilateral ABCD such that AC is perpendicular to BD Prove that PQRS is a rectangle.
(NCERT EXEMPLAR)

15. A diagonal of a parallelogram bisects one of its angles. Show that it is a rhombus.
(NCERT EXEMPLAR)
