

CBSE (CLASS - IX) MATHS PART TEST - SA 2

FULL MARKS: 40

MAX. TIME: 1.5 hrs

Section: A

(1 * 4 = 4)

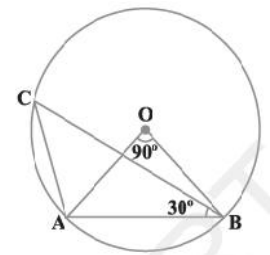
- ABCD is a cyclic trapezium such that AB is a diameter of the circle circumscribing it and $\angle ADC = 140^\circ$, then $\angle BAC$ is equal to:
 (a) 80° (b) 50° (c) 40° (d) 30°
- AD is a diameter of a circle and AB is a chord. If $AD = 34$ cm, $AB = 30$ cm, the distance of AB from the centre of the circle is:
 (a) 17cm (b) 15cm (c) 4 cm (d) 8 cm
- If bisectors of $\angle A$ and $\angle B$ of a quadrilateral ABCD intersect each other at P, of $\angle B$ and $\angle C$ at Q, of $\angle C$ and $\angle D$ at R and of $\angle D$ and $\angle A$ at S, then PQRS is a
 (a) rectangle (b) rhombus (c) parallelogram (d) trapezium
- If $\angle AOB = 90^\circ$, and $\angle ABC = 30^\circ$, $\angle CAO$ is equal to ?

(a) 30°

(b) 45°

(c) 90°

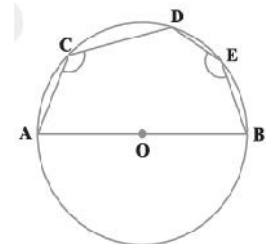
(d) 60°



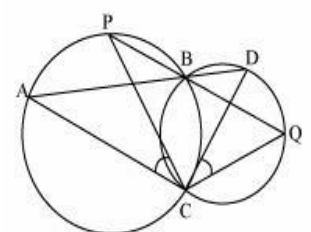
Section: B

(2 * 2 = 4)

- In the given figure AB is the diameter of the circle and C, D, E are any three point on the semicircle. Find the value of $\angle ACD + \angle BED$?



- Two circles intersect at two points B and C. Through B, two line segments ABD and PBQ are drawn to intersect the circles at A, D and P, Q respectively (see the given figure). Prove that $\angle ACP = \angle QCD$.



Section: C

(3 * 4 = 12)

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

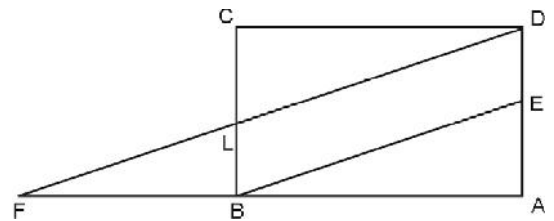
OR

Show that if the diagonals of a quadrilateral bisect each other at right angles, then it is a rhombus.

8. Construct a triangle XYZ in which $\angle Y = 30^\circ$, $\angle Z = 90^\circ$ and $XY + YZ + ZX = 11\text{cm}$.

9. ABCD is a cyclic quadrilateral BA and CD produced meet at E. Prove that triangle EBC and EDA are equiangular.

10. In the given figure, ABCD is a parallelogram and E is the midpoint of AD. DLBE meets AB produced at F. Prove that B is the midpoint of AF and $EB = LF$.



Section: D

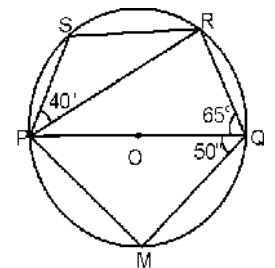
(4 * 5 = 20)

11. If the equal chords of a circle intersect within the circle, prove that the line joining the point of intersection to the centre makes equal angles with the chords.

OR

Two congruent circles intersect each other at points A and B. Through A any line segment PAQ is drawn so that P, Q lie on the two circles. Prove that $BP = BQ$.

12. In the given figure, PQ is the diameter of the circle with centre O. If $\angle PQR = 65^\circ$, $\angle RPS = 40^\circ$ and $\angle PQM = 50^\circ$, find $\angle QPR$, $\angle PRS$ and $\angle QPM$.



13. Construct a ΔABC in which $BC = 5.6\text{cm}$, $AC - AB = 1.6\text{cm}$ and $\angle B = 45^\circ$.

14. E and F are respectively the mid-points of the non-parallel sides AD and BC of a trapezium ABCD. Prove that $EF \parallel AB$ and $EF = \frac{1}{2}(AB + CD)$.

15. In the give figure, ABCD is a parallelogram. Points P and Q on BC trisects BC in three equal parts. Prove that,

$$ar\Delta APQ = ar\Delta DPQ = \frac{1}{6}ar(ABCD)$$

