SAMPLE PAPER_200224
PRACTICE PAPER 07 - CHAPTER 06, 07 & 08 (2023-24)

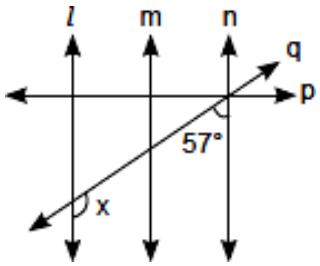
SUBJECT: MATHEMATICS **MAX. MARKS: 40**
CLASS: IX **DURATION: 1½ hrs**

General Instructions:

(i). **All** questions are compulsory.
(ii). This question paper contains 2**0** questions divided into five Sections A, B, C, D and E.
(iii). **Section A** comprises of **10 MCQs** of **1 mark** each. **Section B** comprises of 4 questions of **2 marks** each. **Section C** comprises of 3 questions of **3 marks** each. **Section D** comprises of 1 question of **5 marks** each and **Section E** comprises of 2 Case Study Based Questions of **4 marks** each.
(iv). There is no overall choice.
(v). Use of Calculators is not permitted

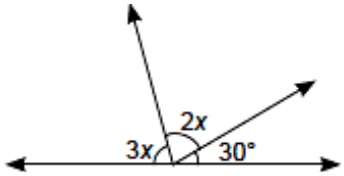
SECTION – A
Questions 1 to 10 carry 1 mark each.

1. In the given figure, line l || line m || line n, line p and line q are transversals. Then, measurement of ∠ x is



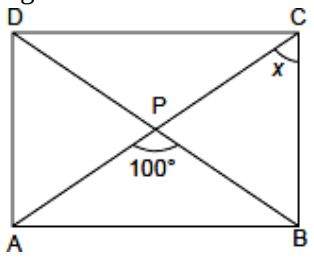
(a) 57° b) 43° (c) 150° (d) 123°

2. In the given figure, the value of x is



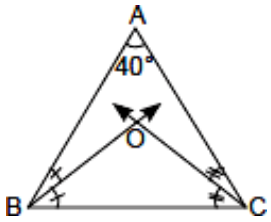
(a) 20° (b) 30° (c) 40° (d) 50°

3. In the given figure, ABCD is a rectangle in which ∠APB = 100°. The value of x is



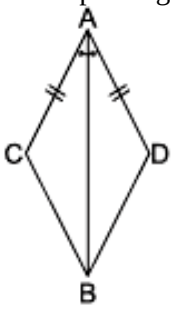
(a) 40° (b) 50° (c) 60° (d) 70°

4. In the given figure, measure of ∠BOC is



(a) 110° (b) 40° (c) 70° (d) 60°

5. In the given figure, the congruency rule used in proving ΔACB ≅ ΔADB is



(a) ASA (b) SAS (c) AAS (d) none of these

6. Given two right-angled triangles ABC and PRQ, such that ∠A = 30°, ∠Q = 30° and AC = QP. Write the correspondence if triangles are congruent.
(a) ΔABC ≅ ΔPQR (b) ΔABC ≅ ΔPRQ (c) ΔABC ≅ ΔRQP (d) ΔABC ≅ ΔQRP

7. In a quadrilateral ABCD, equal diagonals AC and BD intersect at P, such that AP = PC and BP = PD, also ∠BPC = 90°, then quadrilateral is exactly
(a) a parallelogram (b) a square (c) a rhombus (d) a rectangle

8. It is given that ΔABC ≅ ΔFDE and AB = 5 cm, ∠B = 40° and ∠A = 80°. Then which of the following is true?
(a) DF = 5 cm, ∠F = 60° (b) DF = 5 cm, ∠E = 60°
(c) DE = 5 cm, ∠E = 60° (d) DE = 5 cm, ∠D = 40°

In the following questions 9 and 10, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.
(a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.

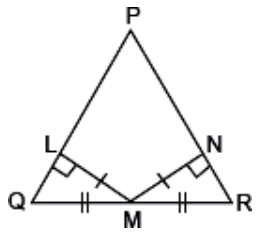
9. **Assertion (A):** An angle is 14^0 more than its complementary angle, then angle is 52^0.
Reason (R): Two angles are said to be complementary if their sum of measure of angles is 180^0.

10. **Assertion (A):** In ΔABC, ∠C = ∠A, BC = 4 cm and AC = 5 cm. Then, AB = 4 cm
Reason (R): In a triangle, sides opposite to two equal angles are equal.

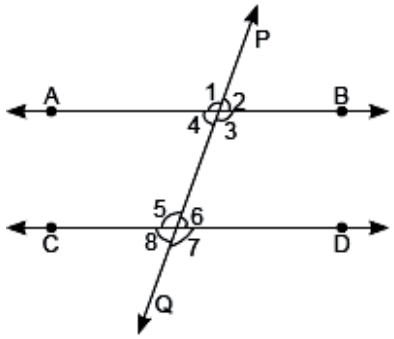
SECTION – B

Questions 11 to 14 carry 2 marks each.

11. In the given figure, LM = MN, QM = MR, ML ⊥ PQ and MN ⊥ PR. Prove that PQ = PR.

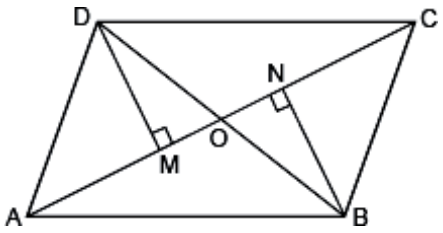


12. In the given figure, AB || CD, $\angle 1 = 90° + x$ and $\angle 7 = 4x$. Find the measure of $\angle 1$ and $\angle 2$.



13. Prove that a diagonal of a parallelogram divides it into two congruent triangles.

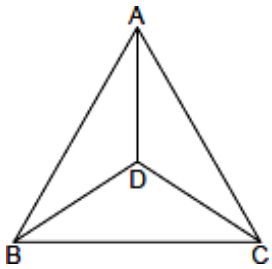
14. In quadrilateral ABCD, BN and DM are drawn perpendicular to AC. Such that BN = DM. Prove that O is mid-point of BD.



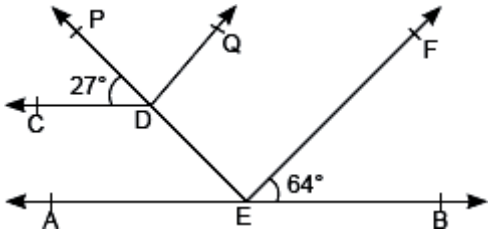
SECTION – C

Questions 15 to 17 carry 3 marks each.

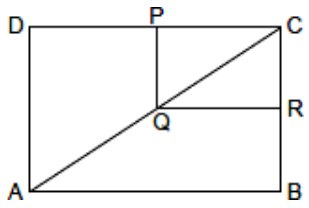
15. In the given figure, AB = AC and D is a point in the interior of ΔABC such that $\angle DBC = \angle DCB$. Prove that AD bisects $\angle BAC$ of ΔABC.



16. In the given figure, EF || DQ and AB || CD. If $\angle FEB = 64°$, $\angle EDC = 27°$, then find $\angle PDQ$, $\angle AED$ and $\angle DEF$.



17. In the given figure, ABCD and PQRC are rectangles and Q is the mid-point of AC. Prove that:
(i) DP = PC (ii) PR = $\frac{1}{2}$AC



SECTION – D

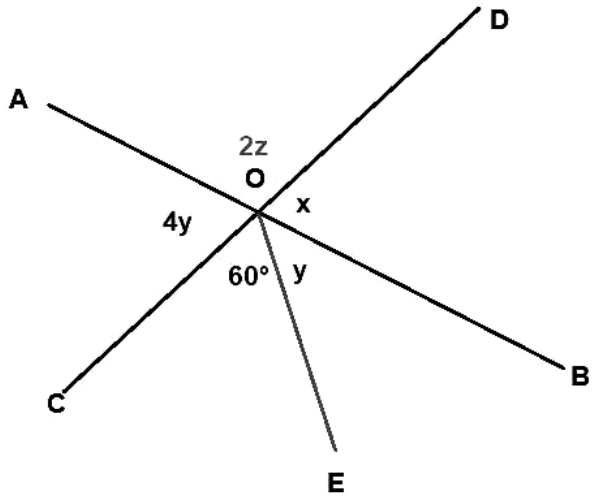
Questions 18 carry 5 marks.

18. Show that the quadrilateral formed by joining the mid-points of the sides of a square, is also a square.

SECTION – E (Case Study Based Questions)

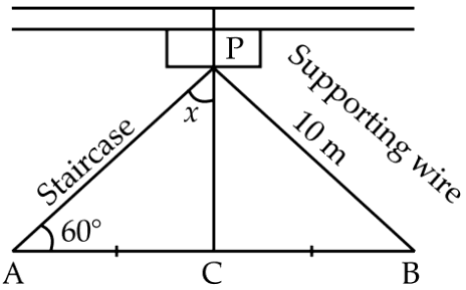
Questions 19 to 20 carry 4 marks each.

19. Maths teacher draws a straight line AB shown on the blackboard as per the following figure. Now he told Mohan to draw another line CD as in the figure. The teacher told Ajay to mark ∠AOD as 2z. Aditya was told to mark ∠AOC as 4y then Ravi Made an angle ∠COE = 60°. Lastly again Ajay marked ∠BOE and ∠BOD as y and x respectively



Answer the following questions:
(i) What is the value of x?
(ii) What is the value of y?
(iii) What is the value of z?
(iv) What should be the value of x + 2z?

20. Aditya went to village in summer vacation. He saw a big pole PC while playing. This pole was tied with a strong wire of 10 m length. Once there was a big spark on this pole, thus wires got damaged very badly. Any small fault was usually repaired with the help of a rope which normal board electricians were carrying on bicycles. This time electricians need a staircase of 10 m, so that it can reach at point P on the pole and this should make 60° with line AC.



(i) In ΔPAC and ΔPBC which side is common? (1)

(ii) In figure, ΔPAC and ΔPBC are congruent due to which criterion? (2)

OR

Find the value of ∠x? (2)

(iii) Find the measure of ∠PBA? (1)