



IX

MIND CURVE Mid Term Maths Test Series 2025-26

Test 04

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S no	Syllabus Covered	Chapters(In Half Yearly)	Marking Scheme
1	Chapter 7	Triangles	40

Note: Students/Teachers can refer to this Sample Paper for practice purpose. However, students may find or experience different exam pattern as syllabus or marking scheme may vary school to school.

MM:40

GENERAL INSTRUCTIONS

Time 1.5Hrs

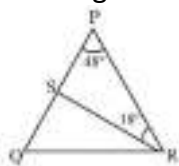
READ CAREFULLY ALL INSTRUCTIONS

1. This Question Paper has 5 Sections A, B, C, D and E.
2. Section A has 10 MCQs carrying 1 mark each
3. Section B has 3 questions carrying 02 marks each.
4. Section C has 2 questions carrying 03 marks each.
5. Section D has 2 case based integrated units of assessment (04 marks each) with sub parts of the values of 1, 1 and 2 marks each respectively.
6. Section E has 2 questions carrying 05 marks each.
7. All Questions are compulsory.
8. This paper consists of 19 questions.
 - a. Write your answers neatly and legibly.
 - b. Ensure you have not left any question unanswered

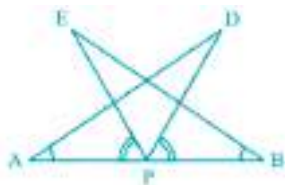
SECTION – A

Questions 1 to 10 carry 1 mark each.

1. If $AB = QR$, $BC = PR$ and $CA = PQ$, then
 - (a) $\triangle PQR \cong \triangle BCA$
 - (b) $\triangle BAC \cong \triangle RPQ$
 - (c) $\triangle CBA \cong \triangle PRQ$
 - (d) $\triangle ABC \cong \triangle PQR$
2. In triangles ABC and DEF , $AB = FD$ and $\angle A = \angle D$. The two triangles will be congruent by SAS axiom if
 - (a) $BC = EF$
 - (b) $AC = DE$
 - (c) $AC = EF$
 - (d) $BC = DE$
3. In the given figure $PQ = QR$, $\angle QPR = 48^\circ$, $\angle SRP = 18^\circ$, then $\angle PQR =$



- (a) 48°
 - (b) 84°
 - (c) 30°
 - (d) 36°
4. AB is a line segment and P is the mid-point. D and E are points on the same side of AB such that $\angle BAD = \angle ABE$ and $\angle EPA = \angle DPB$ (See Figure)
Which of the following is true?



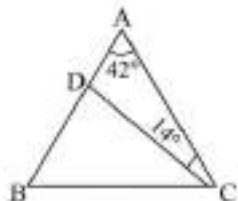
(a) $\triangle PBD \cong \triangle BPE$

(b) $\angle APE = \angle DPE$

(c) $AP = BE$

(d) None of these

5. In the given figure $AB = AC$, $\angle A = 42^\circ$ and $\angle ACD = 14^\circ$. $\angle BCD$ is equal to:



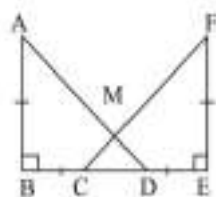
(a) 55°

(b) 69°

(c) 45°

(d) 50°

6. In the given figures $AB \perp BE$ and $EF \perp BE$. Also $BC = DE$ and $AB = EF$ then



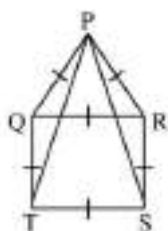
(a) $\triangle ABD \cong \triangle FEC$

(b) $\triangle ABD \cong \triangle EFC$

(c) $\triangle ABD \cong \triangle CMD$

(d) $\triangle ABD \cong \triangle CEF$

7. In the given figure PQR is an equilateral triangle and QRST is square. Then $\angle PSR$



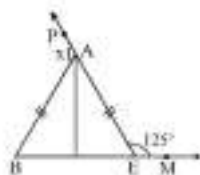
(a) 30°

(b) 15°

(c) 90°

(d) 60°

8. In figure, $AB = AE$, $\angle ACM = 125^\circ$ and $\angle PAB = x$. Find the value of x .



(a) 130°

(b) 110°

(c) 100°

(d) 120°

Question numbers 9 and 10 are Assertion and Reason based questions

Two statements are given, one labelled as Assertion (A) and the other is labelled as Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

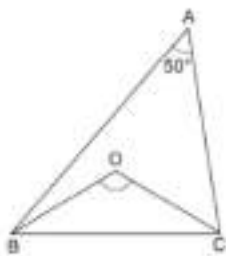
(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).

(c) Assertion (A) is true, but Reason (R) is false.

(d) Assertion (A) is false, but Reason (R) is true.

9. **Assertion (A):** In the given figure, BO and CO are the bisectors of $\angle B$ and $\angle C$ respectively. If $\angle A = 50^\circ$ then $\angle BOC = 115^\circ$

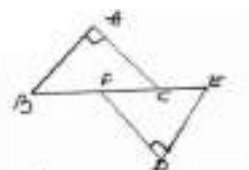
Reason (R): The sum of all interior angles of a triangle is 180°



- 10. Assertion (A):** Angles opposite to equal sides of a triangle are not equal.
Reason (R): sides opposite to equal angles of triangle are equal.

SECTION – B
Questions 11 to 13 carry 2 mark each.

- 11.(A)** In the given figure BA is perpendicular to AC , DE is perpendicular to DF such that BA = DE and BF = EC. Show that $\triangle ABC \cong \triangle DEF$.

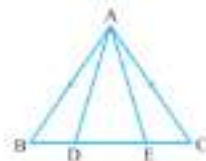


OR

- (B) The given figure $\angle BCD = \angle ACD$ and $\angle ACB = \angle BDA$. Prove that $AD = DB$ and $\angle A = \angle B$.



- 12.** In an isosceles triangle ABC with $AB = AC$, D and E are points on BC such that $BE = CD$. Show that $AD = AE$.



- 13.(A)** $\triangle ABC$ is an isosceles triangle in which $AB = AC$. Side BA is produced to D such that $AD = AB$. So that angle BCD is a Right angle.

OR

- (B) BE and CF are two equal altitude of a $\triangle ABC$. Using RHS congruence rule , Prove that the $\triangle ABC$ is isosceles

SECTION – C
Questions 14 to 15 carry 3 mark each

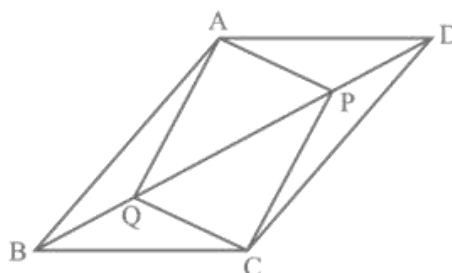
- 14. (A)** D, E, F are the midpoints of the sides BC, CA and AB respectively of $\triangle ABC$, then $\triangle DEF \cong \triangle AEF$

OR

- (B) In an isosceles $\triangle ABC$, with $AB = AC$, the bisectors of $\angle B$ and $\angle C$ intersect each other at O. Join A to O.
 Show that: (i) $OB = OC$ (ii) AO bisects $\angle A$

- 15.** In parallelogram ABCD, two points P and Q are taken on diagonal BD such that $DP = BQ$ (see Fig.).
 Show that:

- (i) $\triangle APD \cong \triangle CQB$
 (ii) $\triangle AQB \cong \triangle CPD$



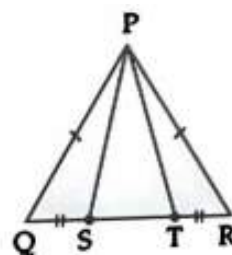
SECTION – D**Questions 16 & 17 carry 4 mark each.**

- 16.** A children's park is in the shape of an isosceles ΔPQR with $PQ=PR$, S and T are points on QR such that $QT=RS$. Based on the above information, answer the following questions:

- (i) If $\angle R = 70^\circ$, Find $\angle QPR$
 (ii) If $\angle PST = 80^\circ$, Find $\angle QPS$
 (iii) (a) Show that $\Delta PQT \cong \Delta PRS$.

OR

- (b) Is $\Delta PQS \cong \Delta PRT$. Justify your answer.

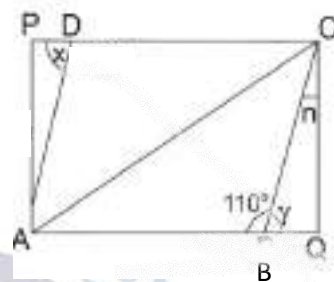


- 17.** In the middle of the city, there was a park ABCD in the form of a parallelogram with $\angle B = 110^\circ$. The municipality converted this park into a rectangular form by adding land in the form of right ΔPD and right ΔBCQ . Both the triangular shapes of land were covered by planting flower plants.

- (i) What is the value of $\angle x$?
 (ii) What is the value of $\angle n$?
 (iii) (a) Prove that ΔAPD and ΔCQB are congruent.

OR

- (b) Prove that ΔAQC and ΔCPA are congruent.

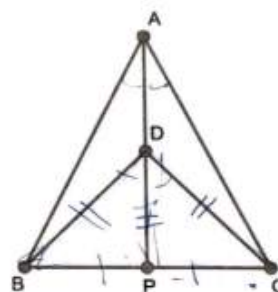
**SECTION – E****Questions 18 & 19 carry 5 mark each**

- 18.** ΔABC and ΔDBC are two isosceles triangles on the same base BC and vertices A and D are on the same side of BC. If AD is extended to intersect BC at P, show that A

- (i) $\Delta ADO \cong \Delta ACD$
 (ii) $\Delta ABP \cong \Delta ACP$
 (iii) (a) AP bisects $\angle A$ as well as $\angle D$.

OR

- (b) AP is the perpendicular bisector of BC.

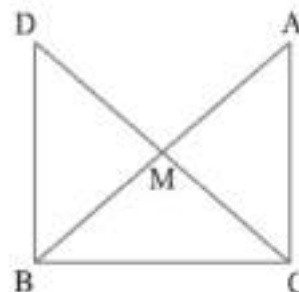


- 19.** In right triangle ABC, right angled at C, M is the mid-point of hypotenuse AB. C is joined to M and produced to a point D such that $DM = CM$. Point D is joined to point B. Show that:

- (i) $\Delta AMC \cong \Delta BMD$
 (ii) $\angle DBC$ is a right angle.
 (iii) (a) $\Delta DBC \cong \Delta ACB$

Or

- (b) $CM = \frac{1}{2} AC$



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