



INDIAN SCHOOL AL WADI AL KABIR  
REVISION PAPER- ASSESSMENT 2 (2025-26)  
MATHEMATICS

Class: IX

Max Marks: 80

Time: 3 hours

General Instructions:

Read the following instructions carefully and follow them:

1. This question Paper contains 38 questions.
2. This Question Paper is divided into 5 Sections A, B, C, D and E.
3. In Section A, Questions no. 1-18 are multiple choice questions (MCQs) and questions no. 19 and 20 are Assertion- Reason based questions of 1 mark each.
4. In Section B, Questions no. 21-25 are very short answer (VSA) type questions, carrying 02 marks each.
5. In Section C, Questions no. 26-31 are short answer (SA) type questions, carrying 03 marks each.
6. In Section D, Questions no. 32-35 are long answer (LA) type questions, carrying 05 marks each.
7. In Section E, Questions no. 36-38 are case study-based questions carrying 4 marks each with sub parts of the values of 1, 1 and 2 marks each.
8. All Questions are compulsory. However, an internal choice in 2 Question of Section B, 2 Questions of Section C and 2 Questions of Section D has been provided. An internal choice has been provided in all the 2 marks questions of Section E.
9. Draw neat and clean figures wherever required.
10. Use of calculators is not allowed.

**Section A (1 mark each)**

- Q.1.** An irrational number in between  $\frac{2}{7}$  and  $\frac{3}{7}$ :
- A** 0.2333...      **B** 0.28599...      **C** 0.3103110...      **D** None of these
- Q.2.** Which of the following statements **can** be taken as an **axiom** in Euclidean geometry?
- A** Things which are equal to the same thing are equal to one another.      **B** A straight line can be drawn joining any two points
- C** All right angles are equal to one another.      **D** A line contains infinite points
- Q.3.** The value of the polynomial  $x^2 - 3x + 7$  at  $x = 2$  is:
- A** -2      **B** 5      **C** 1      **D** 0
- Q.4.** The distance between the points A (3,0) and B (-4,0)
- A** 6 units      **B** -6 units      **C** 7 units      **D** None of these

**Q.5.** If a point lies on the **y-axis**, then its abscissa is:

- A** Constant      **B** Zero      **C** Not defined      **D** None of these

**Q.6.** If  $x = \sqrt{5} + \sqrt{2}$ , Then find the value of  $x^2 - 2\sqrt{10}$  is:

- A** 7      **B** 9      **C** 13      **D** None of these

**Q.7.** If two adjacent angles form a linear pair and one of them is twice the other, then the angles:

- A**  $45^\circ$  and  $90^\circ$       **B**  $60^\circ$  and  $120^\circ$       **C**  $40^\circ$  and  $80^\circ$       **D**  $50^\circ$  and  $100^\circ$

**Q.8.** Find the measure of an angle which is  $30^\circ$  more than its complement.

- A**  $45^\circ$       **B**  $64^\circ$       **C**  $60^\circ$       **D**  $75^\circ$

**Q.9.** If two lines are perpendicular, and one of the angles formed is  $(2x+10)^\circ$ , find x.

- A**  $40^\circ$       **B**  $65^\circ$       **C**  $85^\circ$       **D**  $45^\circ$

**Q.10.** If  $AB = QR$ ,  $BC = RP$  and  $CA = PQ$ , then:

- A**  $\triangle ABC \cong \triangle PQR$       **B**  $\triangle CBA \cong \triangle PRQ$       **C**  $\triangle BAC \cong \triangle RPQ$       **D**  $\triangle PQR \cong \triangle BCA$

**Q.11.** If 3 chairs and 1 table costs ₹ 1500 and 6 chairs and 1 table costs ₹ 2400. Then the linear equations to represent this situation:

- A**  $3x+y+1500=0$   
 $6x+y+2400=0$       **B**  $-3x+y=1500$   
 $6x+y=2400$       **C**  $3x+y=1500$   
 $6x+y=2400$       **D**  $3x+y=1500$   
 $6x-y=2400$

**Q.12.** The area of a triangle is  $150 \text{ cm}^2$  and its sides are in the ratio 3: 4:5. What is its perimeter?

- A** 26cm      **B** 5cm      **C** 25cm      **D** 60cm

**Q.13.** The sides of a triangle are in the ratio of 13: 5: 12 and its perimeter is 300 cm. Its area will be:

- A**  $3000 \text{ Sq. cm}$       **B**  $1500\sqrt{30} \text{ sq. cm}$       **C**  $1000 \text{ sq. cm}$       **D**  $2500 \text{ sq. cm}$

**Q.14.** In a frequency distribution, the mid value of a class is 10 and the width of the class is 6. The lower limit of the class is

- A** 6      **B** 7      **C** 8      **D** 12

**Q.15.** Two successive class intervals are given as 30-40 and 50-60. Then the class mark of each class interval is:

- A** 35 & 55      **B** 45 & 55      **C** 30 & 40      **D** 30 & 50

**Q.16.** If the actual frequency of the class interval 70 – 80 is 12 and the minimum class size is 5, then the adjusted frequency of this class interval is\_\_\_\_\_.

- A** 6      **B** 7      **C** 5      **D** 10

**Q.17.** For two triangles, if two angles and the included side of one triangle are equal to two angles and the included side of another triangle. Then the congruency rule is:

**A** AAA      **B** ASA      **C** SSS      **D** AAS

**Q.18.**  $x = 5, y = -2$  is a solution of which of the following linear equation

**A**  $2x + y = 10$       **B**  $2x - y = 12$       **C**  $x + 3y = 1$       **D**  $x + 3y = 0$

### PART-2 ASSERTION AND REASON TYPE QUESTIONS (1 mark)

**Direction for questions 19 & 20:** In question numbers 19 and 20, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option.

- (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 and 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.

**Q.19.** **Assertion:** Point A  $(-2, 7)$  lies in III quadrant

**Reason:** A point both of whose coordinates are negative lies in III quadrant

**Q.20.** **Assertion:** In right triangles ABC and DEF, if hypotenuse  $AB = EF$  and side  $AC = ED$ , then

$$\triangle ABC \cong \triangle EFD.$$

**Reason:** Two triangles are congruent if two sides and one angle of a triangle is equal to two sides and an angle of another triangle.

### Section B (2 marks each)

**Q.21.** a) If  $p(x) = x^2 - 5x + 6$ , then  $p(1) + p(-1) - p(0)$ .

**OR**

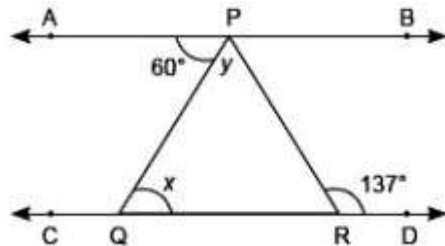
b) Factorize  $P(x) = x^2 - 3x + 2$

**Q.22.** Write  $(3a + 2b - c)^2$  in expanded form.

**Q.23.** Write the co-ordinates of a point

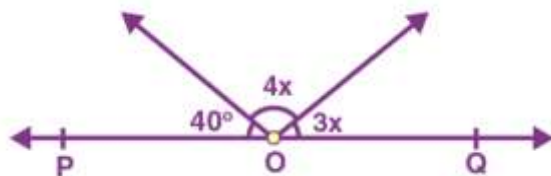
- i. Above the x-axis lying on y-axis at a distance of 10 units
- ii. Left of origin and on the x-axis at the distance of 5 units

**Q.24.** a) In the given figure, if  $AB \parallel CD$ ,  $\angle APQ = 60^\circ$  and  $\angle PRD = 137^\circ$ , then find the value of  $x$  and  $y$ .



(OR)

b) In the Given figure, find the value of  $x$ .



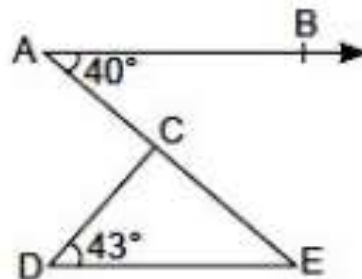
Q.25. Write any 4 solutions of  $2x+3y=12$ .

### Section C (3 marks each)

Q.26. Represent geometrically  $\sqrt{9.3}$  on the number line.

Q.27. In the given figure,  $AB \parallel DE$ , Find

- measure of  $\angle DCE$
- measure of  $\angle ACD$



Q.28. The three vertices of a Trapezium ABCD, are A (2,3), B (6,3), and C (5,6)

- Plot the points on a graph.
- Find the ordinates of the fourth vertex D if its abscissa is 3.
- Find the area of the Trapezium so formed.

Q.29. a)  $\triangle ABC$  is an isosceles triangle in which  $AB = AC$  (fig 1). Side BA is produced to D such that  $AD = AB$ . Show that  $\angle BCD$  is a right angle.

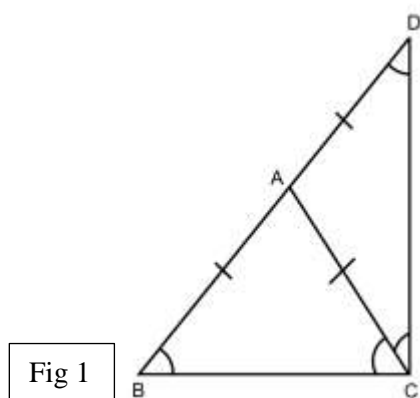


Fig 1

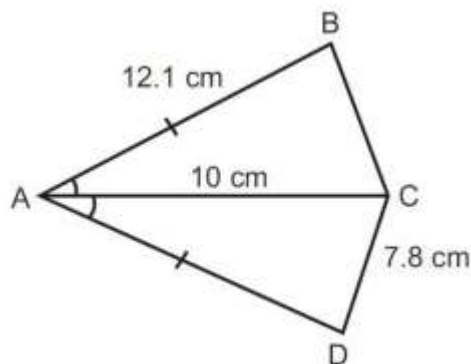


Fig 2

(OR)

b) Find the perimeter of the quadrilateral ABCD (as shown in the figure 2), if  $\angle CAB = \angle CAD$  and also  $AB = AD$ .

- Q.30.** If  $x = 2, y = 3$  is a solution of  $(p + 1)x - (2p + 3)y - 1 = 0$ .
- Find the value of  $p$ .
  - Write the linear equation in standard form.

- Q.31.** a) The perimeter of a triangle is 50 cm. One side of the triangle is 4 cm longer than the smallest side and the third side is 6 cm less than twice the smallest side. Find the area of the triangle.

**OR**

- b) Two adjacent sides of a parallelogram measures 5 cm and 3.5 cm. One of its diagonal measures 6.5 cm. Find the area of the parallelogram by Heron's Formula

**Section D (5 Marks each)**

- Q.32.**
- Find the value of  $x^3 + y^3 + z^3 - 3xyz$  if  $x^2 + y^2 + z^2 = 83$  and  $x + y + z = 1$
  - Evaluate  $102^3$  using suitable identity

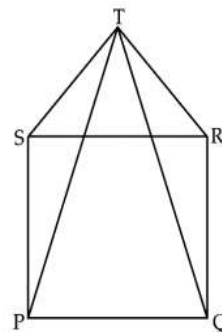
- Q.33.** a) If  $a = 5 + 2\sqrt{6}$ ,  $b = \frac{1}{a}$   
Then what will be the value of  $a^2 + b^2$

**OR**

- b) If  $a = \frac{3 + \sqrt{5}}{2}$ , Find the value of  $a^2 + \frac{1}{a^2}$

- Q.34.** In figure, PQRS is a square and SRT is an equilateral triangle. Prove that:

- $PT = QT$
- $\angle TQR = 15^\circ$



- Q.35.** Draw a Histogram for the following data:

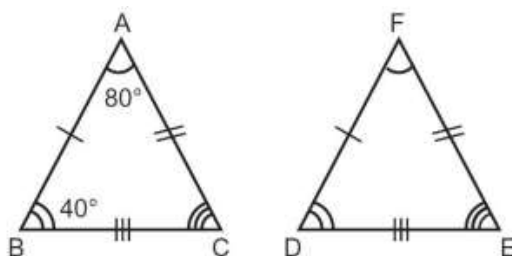
Marks	10-20	20-30	30-50	50-70	70-100
Number of students	6	17	15	16	26

### SECTION E (CASE STUDY QUESTIONS 4 MARKS EACH)

- Q.36.** Truss bridges are formed with a structure of connected elements that form triangular structures to make up the bridge. Trusses are the triangles that connect to the top and bottom cord and two end posts. You can see that there are some triangular shapes are shown in the picture given alongside and these are represented as  $\triangle ABC$ ,  $\triangle CAD$ , and  $\triangle BEA$ .



- (a) If  $AB = CD$  and  $AD = CB$ , then prove  $\triangle ABC \cong \triangle CDA$  1 m  
 (b) If  $AB = 7.5$  m,  $AC = 4.5$  m and  $BC = 5$  m. Find the perimeter of  $\triangle ACD$  1 m  
 (c) If  $\triangle ABC \cong \triangle FDE$ ,  $AB = 5$  cm,  $\angle B = 40^\circ$  and  $\angle A = 80^\circ$ . Then find the length of  $DF$  2 m  
 And measure of  $\angle E$



OR

- (d) Prove that diagonal of a parallelogram divides it into two congruent triangles. 2m

- Q.37** On his birth day, Michael begins distributing chocolates to everyone at the party. He gives 3 chocolates to each child and 2 chocolates to each adult. In total, he distributes 90 chocolates among all the guests.

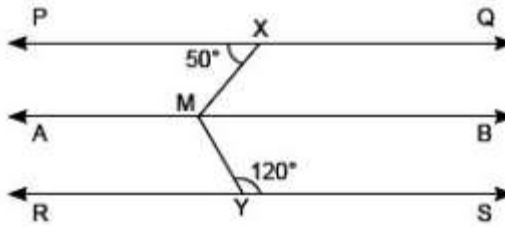
Answer the following questions:

- a) How to represent the above situation in a linear equation in two variables by taking the number of children as  $x$  and the number of adults as  $y$ ? 1 m  
 b) Find the value of  $k$ , if  $x = 5$ ,  $y = 1$  is a solution of the equation  $5x + 7y = k$ . 1 m  
 c) Write the standard form of the linear equation  $y - x = 7$ . 2 m

OR

- d) If the number of children is 10, then find the number of adults at the birthday party 2m

- Q.38.** Two parallel roads PQ and RS are at the center of the city. It was decided to put two huge lamp posts at point X and Y and a statue of Mahatma Gandhi to be placed at point M with lots of palm trees to be planted along the line AB which is parallel to both PQ and RS. The area around M is to be decorated with flowering plants and greenery. The angle  $\angle PXY$  is of  $50^\circ$  and angle  $\angle MYS$  is of  $120^\circ$



Based on the above information answer the following questions.

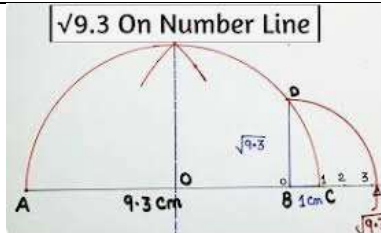
- a) What is the measure of  $\angle XMB$ ? 1 m
- b) What is the measure of the angle  $\angle YMB$ ? 1 m
- c) What is the measure of the reflex angle  $\angle XMY$ ? 2 m

**OR**

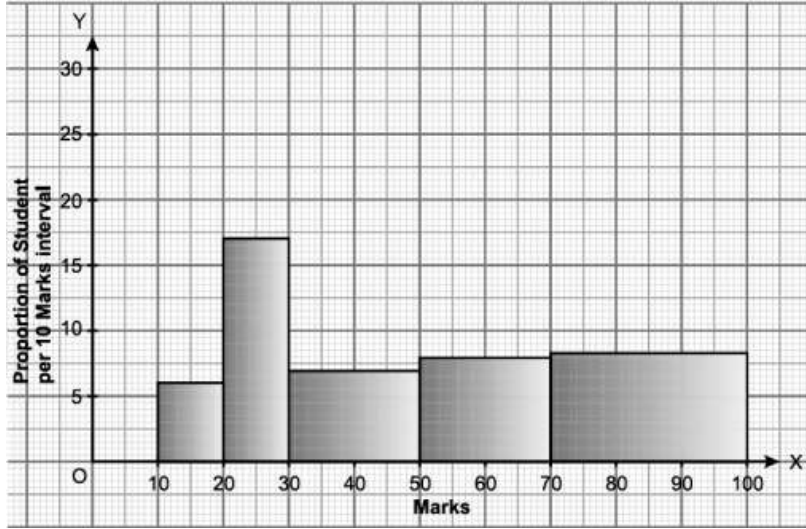
- d) What is ratio between the angles  $\angle XMB$  and  $\angle YMB$ ? 2 m

\_\_\_\_\_

# ANSWERS

Q1	C	Q2	D	Q3	B	Q4	C
Q5	B	Q6	A	Q7	B	Q8	C
Q9	A	Q10	B	Q11	C	Q12	D
Q13	A	Q14	B	Q15	A	Q16	A
Q17	B	Q18	B	Q19	D	Q20	C
Q21	a) 8 b) $(x - 1)(x - 2)$	Q22	$9a^2 + 4b^2 + c^2 + 12ab - 6ac - 4bc$	Q23	(0, 10) (-5, 0)	Q24	a) $x=60^0$ $y= 137^0 - 60^0$ $=77^0$ b) $x=20$
Q25	Any four solution satisfies the equation	Q26		Q27	i. $97^0$ ii. $83^0$	Q28	a) Graph b) $D = (3, 6)$ c) Area = $9\text{unit}^2$
Q29	a) Let $\angle ABC=\angle ACB=x$ $\angle ACD=90-x$ i.e $\angle BCD=90^0$ b) By SAS criteria $\triangle ABC\cong\triangle ACD$ By CPCT, Perimeter= $39.8\text{cm}$	Q30	i. $P= -2$ ii. $x + y + 1 = 0$	Q31	a) Area= $20 \sqrt{30} \text{ cm}^2$ b) $S=7.5 \text{ cm}$ Area = $2 \times 5\sqrt{3}$ $= 10 \sqrt{3} \text{ cm}^2$		



Q32	i. 124 ii. 1061208	Q33	a) 98 b) 7	Q34	$\Delta PST \cong \Delta RTQ$ $\angle TQR = 180^0 - (90 + 60)$ $= 15^0$																								
Q35	<table><thead><tr><th>Marks</th><th>Frequency</th><th>Class width</th><th>Adjusted Frequency</th></tr></thead><tbody><tr><td>10 – 20</td><td>6</td><td>10</td><td><math>\frac{10}{10} \times 6 = 6</math></td></tr><tr><td>20 – 30</td><td>17</td><td>10</td><td><math>\frac{10}{10} \times 17 = 17</math></td></tr><tr><td>30 – 50</td><td>15</td><td>20</td><td><math>\frac{10}{20} \times 15 = 7.5</math></td></tr><tr><td>50 – 70</td><td>16</td><td>20</td><td><math>\frac{10}{20} \times 16 = 8</math></td></tr><tr><td>70 – 100</td><td>26</td><td>30</td><td><math>\frac{10}{30} \times 26 = 8.67</math></td></tr></tbody></table> 					Marks	Frequency	Class width	Adjusted Frequency	10 – 20	6	10	$\frac{10}{10} \times 6 = 6$	20 – 30	17	10	$\frac{10}{10} \times 17 = 17$	30 – 50	15	20	$\frac{10}{20} \times 15 = 7.5$	50 – 70	16	20	$\frac{10}{20} \times 16 = 8$	70 – 100	26	30	$\frac{10}{30} \times 26 = 8.67$
Marks	Frequency	Class width	Adjusted Frequency																										
10 – 20	6	10	$\frac{10}{10} \times 6 = 6$																										
20 – 30	17	10	$\frac{10}{10} \times 17 = 17$																										
30 – 50	15	20	$\frac{10}{20} \times 15 = 7.5$																										
50 – 70	16	20	$\frac{10}{20} \times 16 = 8$																										
70 – 100	26	30	$\frac{10}{30} \times 26 = 8.67$																										
Q36	a) By SSS criteria b) 17m c) 5cm and 60° d) Proof by using properties of Parallelogram	Q37	a) $3x + 2y = 90$ b) $k = 32$ c) $(-1)x + (1)y - 7 = 0$ d) 30	Q38	a) 50° b) 60° c) 250° d) 5: 6																								

\*\*\*\*\*